No. 17-965

IN THE

Supreme Court of the United States

DONALD J. TRUMP,
PRESIDENT OF THE UNITED STATES, ET AL.,
Petitioners,

v.

STATE OF HAWAII, ET AL.,
Respondents.

ON WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR NINTH CIRCUIT

BRIEF OF MASSACHUSETTS TECHNOLOGY LEADERSHIP COUNCIL, INC., AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS IN AFFIRMANCE OF THE DECISIONS BELOW

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INTEREST OF *AMICUS CURIAE*[1]

Amicus Curiae is the Massachusetts Technology Leadership Council, Inc. ("MassTLC"), a not-for-profit association of companies that collectively employ more than 170,000 people in the Massachusetts technology industry. MassTLC represents a vibrant and growing community of innovators in fields including software, computers, robotics, and security products. MassTLC therefore closely follows issues—including immigration policy—that may affect the ability of its members to build value, attract talent, and compete in the diverse global marketplace.

No party's counsel authored this brief in whole or in part. No party or party's counsel contributed money intended to fund preparing or submitting this brief. No person other than MassTLC, its members or its counsel contributed money intended to fund preparing or submitting this brief.

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[1] Petitioner's Letter of Consent to the filing of all amicus briefs in this matter was lodged with the Clerk of Court pursuant to Rule 37.3(a) on January 25, 2018. Counsel for Respondents provided written consent to the filing of this brief pursuant to Rule 37.3(a) on February 20, 2018.

CORPORATE DISCLOSURE STATEMENT

Massachusetts Technology Leadership Council, Inc., is a not-for-profit organization based in Burlington, Massachusetts. It has no parent company, and no publicly traded organization owns 10% or more of its stock.

INTRODUCTION

MassTLC writes in support of the Respondents in opposing the Administration's effort to overturn nationwide injunctions restraining the execution of President Donald Trump's Executive Order dated September 24, 2017, entitled "Enhancing Vetting Capabilities and Processes for Detecting Attempted Entry Into the United States by Terrorists or Other Public-Safety Threats" (the "Third Travel Ban").[2] As the Court is aware, the Third Travel Ban was issued to supplant a similarly-titled Executive Order entitled "Protecting the Nation from Foreign Terrorist Entry into the United States" (the "Second Travel Ban"),[3] which itself was issued to voluntarily narrow an identically titled Executive Order issued January 27, 2017 (the "Original Travel Ban").[4]

The Third Travel Ban, like the ones before it, is arbitrary, illegal, and does not serve the public interest. This is fundamentally the same discriminatory "Muslim Ban" that has been

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[2] 82 Fed. Reg. 45,161 (Sep. 24, 2017).

[3] 82 Fed. Reg. 13,209 (Mar. 6, 2017).

[4] 82 Fed. Reg. 8,977 (Jan. 27, 2017).

repeatedly enjoined over the last fourteen months.[5] Cosmetic changes—such as the *post hoc* addition of purported security justifications, or the addition of certain non-Muslim countries—do not alter the fact that this policy still proceeds from the same irrational and unconstitutional religious animus. When the Original Travel Ban was revised, the President's own Senior Policy Advisor admitted that the revision was intended to achieve the "same basic policy outcome" as its patently illegal predecessor.[6]

The public interest demands an immigration system that does not discriminate against any religion, and that is fair, orderly, and predictable. In particular, technology companies in Massachusetts require such a system to recruit innovators from around the world to build businesses here at home, and to sell their products back out into the global marketplace. President Trump's attempt to ban the entry of entire nationalities—even when the person seeking entry clearly poses no risk—is antithetical to the public interest and undermines America's innovation economy and its fundamental values.

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[5] *See, e.g., Washington v. Trump*, 847 F.3d 1151, 1156-1158 (9th Cir. 2017); *Aziz v. Trump*, 234 F. Supp. 3d 724, 729-731 (E.D. Va. 2017); *Hawai'i v. Trump*, 241 F. Supp. 3d 1119, 1135-1140 (D. Haw. Mar. 15, 2017).

[6] *See Trump Advisor Says New Travel Ban Will Have 'Same Basic Policy Outcome,'* FoxNews.com, Feb. 21, 2017, *available at* http://www.foxnews.com/politics/2017/02/21/trump-adviser-says-new-travel-ban-will-have-same-basic-policy-outcome.html.

ARGUMENT

I. THE THIRD TRAVEL BAN IS MERELY A CONTINUATION OF THE PRESIDENT'S UNCONSTITUTIONAL ANTI-MUSLIM POLICIES.

A. The President Banned Muslims.

During his recent election campaign, President Trump repeatedly promised to ban Muslims from entering the United States.[7] As one court has explained, "[t]he 'Muslim ban' was a centerpiece of the president's campaign for months, and the press release calling for it was still available on his website as of [Feb. 13, 2017]."[8]

Within days of taking office, President Trump issued the Original Travel Ban. Section 3(c) of that order immediately prohibited all people from seven predominantly Muslim countries from entering the United States, even including returning permanent residents and visa-holders residing in the United States.[9] The President ordered that this exclusion continue for 90 days, during which time federal agencies would purportedly review their immigration security procedures.[10] To implement this order, the Department of State "provisionally revoke[d] all valid nonimmigrant and immigrant

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[7] *See Aziz*, 234 F. Supp. 3d at 729-731.

[8] *See id.*

[9] *See Washington*, 847 F.3d at 1156-1158. Notably, the order included a safety valve to permit "religious minorities".

[10] 82 Fed. Reg. 8,977, 8,977-78.

visas of nationals" of those seven countries without any due process or advance notice.[11]

Notably, the Original Travel Ban contained provisions to add additional countries to the "banned" list, and also to extend the ban indefinitely beyond the initial 90-day period.[12] Thus, with the stroke a pen, President Trump suddenly excluded a vast number of Muslims from the United States, stripped legal status from many already residing here, and created well-founded fear that more nationalities would find themselves banned without warning.

B. The Federal Courts Ordered The President To Cease Implementing The Ban.

The Original Travel Ban was rapidly enjoined by numerous federal courts. Most broadly, Judge James Robart of the U.S. District Court for the Western District of Washington issued an order that the federal government was "ENJOINED and RESTRAINED from . . . [e]nforcing Section 3(c)" of the Original Travel Ban on a nationwide basis.[13] The federal government appealed this order, but ultimately dismissed the appeal after the 9th Circuit

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[11] *See* January 27, 2016 Letter of Edward J. Ramotowski, Deputy Ass't of State, Bureau of Consular Affairs, Department of State. This letter made a small number of exceptions for military and diplomatic visas, or case-by-case determinations "in the national interest."

[12] 82 Fed. Reg. 8,977, 8,978.

[13] *Washington*, No. 17-141, 2017 U.S. Dist. LEXIS 16012, at *7-8 (W.D. Wash. Feb. 3, 2017).

construed the order as a preliminary injunction and refused to stay its operation.[14]

Notably, at least one court enjoined the Original Travel Ban based on the strong likelihood that it would prove to be an exercise in religious discrimination. Judge Brinkema of the U.S. District Court for the Eastern District of Virginia concluded, based in large part on the President's own statements, that the Commonwealth of Virginia had established such a strong likelihood of success on its Establishment Clause claim that the Original Travel Ban should be enjoined on that basis alone.[15] Similarly, after President Trump signed the Second Travel Ban, that too was enjoined.[16] Even while litigation concerning the Second Travel Ban was pending, just days before the Third Travel Ban was issued, the President tweeted that the "travel ban into the United States" should be "far larger" and "tougher."[17]

C. The Third Travel Ban Is A Continuation Of Its Predecessors And Is Equally Flawed.

On September 24, 2017, President Trump signed the Third Travel Ban, which supplants the

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[14] *See Washington*, 847 F.3d at 1169 (stay of preliminary injunction denied); Order, *Washington*, No. 17-35105 (9th Cir. Mar. 8, 2017) (granting federal government's motion to voluntarily dismiss appeal of preliminary injunction, including payment of State of Washington's costs).

[15] *Aziz*, 234 F. Supp. 3d at 737 n.11.

[16] *Int'l Refugee Assistance Project v. Trump*, 857 F.3d 554 (4th Cir. 2017).

[17] September 15, 2017 Tweet from Donald J. Trump, *available at* https://twitter.com/realDonaldTrump/status/908645161462650 90.

original two orders. Unchanged, however, is the ban's basic function: to prohibit people from predominantly Muslim countries from entering the United States based solely on their national origin.[18]

While the Third Travel Ban is somewhat narrower than the Original Travel Ban, and includes two non-Muslim majority countries (unlike the previous orders), it nevertheless still achieves (in the words of President Trump's own senior advisor concerning the Second Travel Ban) the "same basic policy outcome."[19] For example, although permanent residents and aliens already issued visas are exempted from the revised order, the residents of six Muslim-majority countries still cannot obtain new visas. Inevitably, travel from those countries will be incrementally extinguished as existing visas expire.

Further, although the Third Travel Ban now contains purported security justifications for restricting travel from the identified Muslim-majority countries (Iran, Libya, Somalia, Syria, Yemen, and Chad), and extends to certain individuals from Venezuela and a tiny group of North Korean travelers (estimated at fewer than 100 annually), it is telling that these justifications were not proffered until after the Original Travel Ban had been enjoined (and new non-Muslim countries added

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[18] This is prohibited discrimination even if the ban does not restrict travel from *every* predominantly Muslim country. *See Aziz* at 736-737 ("The major premise of that argument—that one can only demonstrate animus toward a group of people by targeting all of them at once—is flawed.").

[19] *See Trump Advisor Says New Travel Ban Will Have 'Same Basic Policy Outcome,'* n.6, *supra*.

after the Second one, too, had been enjoined).[20] Asserted now—in the teeth of numerous adverse rulings—these post hoc rationalizations are entitled to little weight.[21] The Ninth Circuit agreed, finding in the Order subject to this appeal that the President failed to make an adequate finding of detriment pursuant to Section 1182(f) of the Immigration and Nationality Act.[22] Similarly, in a separate case, the Fourth Circuit found that the Third Travel Ban likely violated the Establishment Clause and could not be supported by a purported multi-agency security review that the government refuses to disclose.[23]

The Third Travel Ban has the purpose and effect of banning Muslims from the United States, as is evident from the overwhelming record of the President's statements targeting Muslims. The Third Travel Ban also violates the Immigration and Nationality Act.[24] For all of these reasons, as well as for those set forth in Respondents' Brief, the Third Travel Ban is illegal.

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[20] *Washington*, 847 F.3d, at 1168 & n.8.

[21] *Aziz*, 234 F. Supp. 3d at 736 n.10 (citing *Peacock v. Duval*, 694 F.2d 644, 646 (9th Cir. 1982)); *Hawai'i*, 241 F. Supp. 3d at 1137-1138, n. 15 (citing *Aziz*).

[22] *Hawai'i v. Trump*, 878 F.3d 662, 694 (9th Cir. 2017).

[23] *See Int'l Refugee Assistance Project v. Trump*, No. 17-2231, 2018 U.S. App. LEXIS 3513, at *58-61 (4th Cir. Feb. 15, 2018).

[24] 8 U.S.C. §§ 1101 *et seq.*

II. THE THIRD TRAVEL BAN IS NOT ONLY ILLEGAL, BUT IT WILL OPERATE AGAINST THE PUBLIC INTEREST, INCLUDING AGAINST THE INTERESTS OF THE TECHNOLOGY SECTOR.

Although the Third Travel Ban is contrary to the public interest in many ways, MassTLC writes to explain one particular facet of that harm: the ban's profoundly disruptive effect on the technology sector, including in Massachusetts.

A. The Domestic Technology Industry Benefits From Immigration.

1. Immigration Supports The Innovation Economy.

The technology industry is a critical driver of the Massachusetts economy. Nearly 400,000 people in Massachusetts work in jobs that are either in the technology sector, or are in technology-related occupations in other sectors—roughly 13% of the state's total workforce.[25] This industry is a global enterprise, fueled in large part by immigration and international travel. According to one recent study, as of January 1, 2016, "[i]mmigrants have started more than half (44 of 87) of America's startup companies valued at $1 billion dollars or more and are key members of management or product development teams in over 70 percent (62 of 87) of

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[25] Appendix, *The Economic Impact of Immigration on the U.S.*, June 2017 ("App."), 15-16. This Appendix is a version of a publicly-available report published by MassTLC and available on its website, http://www.masstlc.org/immigration/. The report cites original sources for the data relied on in this brief. MassTLC provides a version of the full report here as an Appendix for the Court's convenience.

these companies."[26] More than half of Silicon Valley's corporate founders are immigrants.[27]

The integral role that immigrants play in the technology industry does not arise because "immigrants steal jobs" (as many nativist demagogues have claimed), but rather because the technology industry is growing too rapidly to be staffed through domestic labor alone. By 2020, for example, projections indicate that 1.4 million computer specialist positions will be open in the United States, but domestic universities will only produce enough graduates to fill 29% of those jobs.[28] In Massachusetts today, there are seventeen technology jobs for every person who graduates with a degree in computer science or information technology.[29] Immigrants are responsible for substantial economic growth. This is true as a general matter of the country as a whole: in 2015, immigrants contributed $2 trillion to the U.S. GDP, which represents 11% of the country's total GDP.[30] Zooming in to the Massachusetts technology sector, one study projects that, if half of Massachusetts' 3,608 advanced level graduates in science, technology, engineering, and mathematics (STEM) related fields, studying on temporary visas, remained in Massachusetts upon graduation, then 4,726 new jobs would be created for U.S.-born workers by 2021.[31]

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[26] App. at 30.

[27] App. at 61.

[28] App. at 13.

[29] App. at 16.

[30] App. at 52.

[31] App. at 17.

As it stands, immigrant students are disproportionately more likely to get their degrees in a STEM field, and international students make up over 30% of the post-baccalaureate degrees in STEM fields.[32] Individuals from the six banned countries, moreover, are more likely to have a bachelor's degree, approximately twice as likely to have a graduate degree, and four times as likely to have a doctoral degree relative to the native-born population.[33] Quite apart from this population being a disproportionately educated and skilled one, they are also part of a population making immediate impacts on the U.S economy: During the 2015-16 academic year, international students contributed $32.8 billion to the U.S. economy and supported more than 400,000 jobs.[34]

2. Immigrants Are Inventors.

So too do immigrants drive the development of inventions and other useful arts. For example, in 2011, 76% of patents awarded to the Top 10 patent-producing U.S. universities had an inventor that was foreign-born.[35] In recent years, foreign nationals contributed to more than three quarters of patents in the fields of information technology, molecular and microbiology, and pharmaceuticals.[36]

The amount of invention originating from immigrants can have dramatic effects on innovation, with discernable spillover effects. One academic

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[32] App. at 159-60.

[33] App. at 150.

[34] App. at 163-64.

[35] App. at 37.

[36] App. at 39.

study noted that a 1.3 percentage point increase in the share of the overall U.S. population composed of immigrant college graduates, and a 0.7 percentage point increase in that same share composed of post-graduate immigrants, led to an increase in patenting by approximately 12 to 21%.[37] Similarly, as little as a 0.45 percentage point increase in immigrant scientists and engineers in the overall U.S. population increases patenting per capita by approximately 13 to 32%.[38] High-skilled immigration has an important and discernable impact on the innovation economy. Limiting such immigration clearly threatens future innovation.

3. Immigrants Are Technology Leaders.

The highly-educated foreign-born scientists, mathematicians, and engineers also represent some of the best in the field. 41% of the Nobel Prizes won by Americans in Chemistry, Medicine, and Physics since 2000 were awarded to immigrants.[39] In 2016, all six American winners of the Nobel Prize in economics and scientific fields were foreign born.[40] From 2010-2015, four out of eight U.S. Turing Award (for computing) recipients were first or second generation immigrants.[41] Since 1936, 63% of Fields Medal (for mathematics) recipients affiliated with a U.S. research institution have been foreign born (and *all* such recipients have been foreign-born since

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[37] App. at 41.

[38] *Id.*

[39] App. at 166.

[40] *Id.*

[41] App. at 178.

2002).[42] 40% of National Medal of Science recipients in math or computer science are foreign-born.[43] In Massachusetts, 37% of Nobel Prize winners associated with MIT are foreign-born;[44] 32% of Nobel prize winners who are current faculty or alumni of Harvard University are foreign-born;[45] and 75% of Nobel Prize winners who have been affiliated with Boston University are foreign born.[46] There is little question as to the importance of the contributions that immigrants make to STEM fields, in both the U.S. and Massachusetts.

4. Immigrants Are Business Leaders.

American companies that are household names—Microsoft, McDonald's, U.S. Steel—are led by foreign-born CEOs.[47] As of 2016, over 10% of Fortune 500 CEOs were born outside of the U.S.; the same was true for 14% of Fortune 100 CEOs.[48] In 2016, over 40% of Fortune 500 firms were founded either by an immigrant or the child of immigrants.[49]

The same holds true in Massachusetts. More than half of the Massachusetts-based Fortune 500 companies were founded by immigrants, or by

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[42] App. at 176.

[43] App. at 180.

[44] App. at 168.

[45] App. at 169.

[46] *Id.*

[47] App. at 29.

[48] *Id.*

[49] App at 32.

children of immigrants.[50] Their impact on the Massachusetts economy has been significant, generating over $130 billion in annual revenue, and employing nearly half a million people around the world.[51] At the beginning of this decade, over 17 percent of all business owners in Massachusetts were foreign born.[52] In 2013, the same was true of nearly 19 percent of business owners in the greater Boston area.[53] From 2006 to 2010, Massachusetts businesses owned by new immigrants had a total net business income of $2.8 billion.[54]

Prominent American innovators, past and present, hail from countries directly targeted by the Third Travel Ban, including Steve Jobs (the co-founder of Apple whose father is from Syria),[55] Ali Hajimiri (an academic and entrepreneur who holds over 85 U.S. and European patents, who is from Iran),[56] and Joe Kiani (founder, chairman, and CEO of Masimo, and also from Iran).[57] Iranian-Americans either founded or lead mainstays of the technology sector like Twitter, Dropbox, Oracle, and eBay.[58] Similarly, several of the top venture capitalists who

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[50] App. at 26.

[51] *Id.*

[52] App. at 27.

[53] *Id.*

[54] *Id.*

[55] App. at 32-34.

[56] *Id.*

[57] *Id.*

[58] App. at 14.

fund new technology companies were born in Tehran.[59]

5. Immigrants Contribute To The Field Of Medicine.

Medicine, in particular, has benefitted greatly from immigrants. More than 25 percent of physicians practicing in the United States are foreign born.[60] Importantly, foreign-born physicians are disproportionately represented in rural clinics and public safety-net hospitals treating isolated and vulnerable populations.[61] The simple reason for this is that the United States does not produce enough physicians to keep up with demand. According to a report published by the Association of American Medical Colleges (AAMC) in 2016, a current deficit of 11,000 physicians is expected to grow as the population grows and ages.[62] The AAMC estimates that the U.S. will face a shortage of up to 94,700 doctors by 2025.[63] Almost a third of the shortage will be primary care physicians.[64] More than 8,400 doctors working in the U.S. are from two countries listed in the Third Travel Ban: Iran and Syria.[65] Specifically in Massachusetts, in 2016 almost 1 in 4 physicians graduated from a medical school outside of the United States (suggesting non-U.S. origin).[66]

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[59] App. at 17-18.

[60] App. at 17.

[61] App. at 17-18.

[62] *Id.*

[63] App at 18.

[64] *Id.*

[65] App. at 19.

[66] App. at 21.

B. Unless It Is Enjoined, The Third Travel Ban Will Harm The Technology Industry.

Implementation of irrational and discriminatory immigration policies, including the Third Travel Ban, would severely harm the technology industry in the U.S. generally, and Massachusetts specifically. Indeed, Massachusetts has one of the highest numbers of applications for temporary non-agricultural work permits in the United States.[67] The impact is expected to destabilize the workforce and reduce the competitiveness of U.S. technology firms. For example, Microsoft's public securities filings explain that "[c]hanges to U.S. immigration policies that restrain the flow of technical and professional talent may inhibit our ability to adequately staff our research and development efforts."[68] In addition to stifling recruiting from the "banned" countries, the Third Travel Ban could accelerate the rise of technology hubs abroad, making such locales as Vancouver, London, and Singapore more "attractive alternatives to existing hubs" of technology in the United States,[69] and force companies based abroad to put off opening offices in the United States.[70] It will also likely result in the relocation of foreign born employees from the United States to other counties where they can reside without fear of a sudden revocation of their rights to access their families and homes.

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[67] App. at 128.

[68] App. at 21.

[69] App at 22.

[70] *Id.*

The Massachusetts technology sector expects to feel this impact acutely.

As reported in the press, numerous Boston-based businesses have expressed grave concern regarding the Administration's travel ban and its potential expansion. As Jeff Bussgang, a general partner at the venture capital firm Flybridge and professor at Harvard Business School stated, the travel ban is "the innovation economy's worst nightmare."[71] Paul English, founder of the travel booking site Kayak and startup Lola, expressed concern about a Mexican national hired to develop an app who was worried about traveling out of the country to visit his family.[72] Leaders of Massachusetts-headquartered technology companies, from large to small— including GE, TripAdvisor, Carbonite, Brightcove, and Fuze—have expressed concern over the direct impact that implementation of the travel ban had on their businesses.[73] This anecdotal evidence is strongly supported by the empirical data noted above: a high percentage of founders, managers, and employees of Massachusetts technology companies are immigrants and potentially impacted by the Third Travel Ban, either directly or indirectly.

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[71] Adam Vaccaro, *Boston Business Leaders Oppose Trump Immigration Order*, The Boston Globe (Jan. 29, 2017), *available at* https://www.bostonglobe.com/business/2017/01/29/chief-says-company-will-stand-with-employees-from-banned-countries/5v00oFyvZZpGPd5CxPDjfN/story.html.

[72] *Id.*

[73] Zeninjor Enwemeka, *Local Tech Companies Say Trump's Immigration Order Is Bad For Business*, WBUR (Feb. 7, 2017), *available at* http://www.wbur.org/bostonomix/2017/02/07/boston-business-travel-ban.

It is thus clearly in the public interest—including in the interests of the Massachusetts technology industry—for the Court to restrain the operation of the Third Travel Ban. The United States deserves fair, rational, and predictable rules to govern immigration and international travel. Such a system permits individuals and companies to reliably arrange employment and commercial relationships, without fear that those relationships will be abruptly disrupted by irrational or discriminatory policies.

C. Unless It Is Enjoined, the Third Travel Ban Will Undermine the Competitive Strength of the Domestic Technology Industry and Will Chill the Culture of Innovation.

The Third Travel Ban is also contrary to the public interest because it substantially undermines the ability of the Massachusetts technology industry to compete in the international marketplace. It discourages travel to the U.S. by potential customers and investors, either because they are directly impacted by the ban, or because they are worried that the ban would be unexpectedly expanded to exclude additional nationalities. Indeed, this is not a theoretical concern. Flight bookings to the United States from January 28, 2017 to February 4, 2017 dropped by 6.5% overall in comparison to the previous year.[74] Bookings to the United States from the six targeted countries in the Second Travel Ban have dropped by 80%.[75]

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[74] App. at 271.

[75] *Id.*

It may also force companies to move jobs outside of the U.S., locating businesses where employees live rather than enticing them to come to the U.S. Similarly, the Third Travel Ban discourages talented foreign students from attending local educational institutions, from which the technology industry hires many engineers and scientists to drive innovation in the United States. Foreign-born students already in the U.S. will be less likely to remain, as they may be unable to receive or renew a visa, or may be fearful of that possibility. The Third Travel Ban will inevitably reduce the relative strength of domestic industry in global markets, which does nothing to make the United States more safe, prosperous, or secure.

The technology industry, in Massachusetts as elsewhere, thrives on a culture of diversity, inclusivity, and equal opportunity. The Third Travel Ban is antithetical to these values. It is a patently illegal and discriminatory attempt to inflict harm upon a religious minority.[76] This animus was both proven and magnified by the manner of the Original Travel Ban's implementation, which—without any notice—barred the re-entry of Muslims who have made their home in our country, separating them from their homes, families, and careers. A government that acts to hurt people based on their religion (or non-religion) undermines not only the inclusive principles of the modern technology industry, but also legal principles "rooted in the foundation soil of our Nation" and "fundamental to freedom."[77] "Freedom of thought, which includes

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[76] *Aziz*, 234 F. Supp. 3d at 729-31, 737.

[77] *Epperson v. Arkansas*, 393 U.S. 97, 103-09 (1968).

freedom of religious belief, is basic in a society of free men [and women]."[78]

CONCLUSION

For all the foregoing reasons, MassTLC respectfully requests that this Court affirm the decision below.

Respectfully submitted,

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Dated: March 30, 2018

[78] *United States v. Ballard*, 322 U.S. 78, 86 (1944).

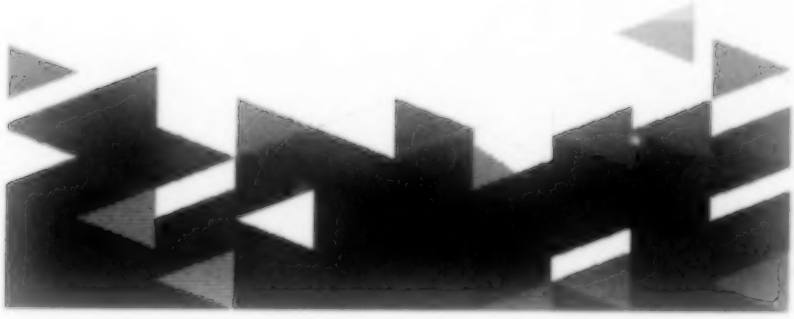
APPENDIX

MASSTLC

MASS TECHNOLOGY LEADERSHIP COUNCIL

The Economic Impact of Immigration on the U.S.

June 2017



ACKNOWLEDGEMENTS

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And, thank you to the many individuals who contributed time and energy to our research and advocacy on this important issue: Catherine Alford, Mohamad Ali, Amitay Alter, Almudena Arcelus, Grace Brittan, Kip Brown, Marric Buessing, Kristyn Bunce DeFilipp, Sean Burpoe, Lenore Byers, Chris Carleton, Sonia Cheung, Pierre-Yves Cremieux, Nick Dadson, Tracy Danner, Matt Driver, Akanksha Dua, Sorcha Evenhouse, Adam Feifel, Catherine Fernan, Desiree Fish, Aaron Fix, Max Flignor, Sara Fraim, Emily Gao, Sam Green, Norman Guadagno, Carro Halpin, Christopher Hart, Owen Hearey, Alex Henslovitz, Ryan Hiatt, Alison Hill, Hunter Hillman, Victoria Hopcroft, Tom Hopcroft, Grace Howland, Samantha Jandl, Patrick Johnson, Seth Kalvert, Steve Kaufer, Michael Keating, Sarah King, Olga Korolev, Nguyen Le, Jee-Yeon Lehmann, Christopher Llop, Dana Louie, Tarek Makawi, Federico Mantovanelli, Rosamond Mate, Sean McCoy, Dan McFadden, Kate McLeod, Liz Milsark, Pedro Mora, Ruth Morris, Liz Neyens, Amanda Nguyen, Caitlin O'Malley, Alec Paulson, Shaked Peleg, Clemens Pilgram, Greg Rafert, Nina Roesner, Peter Rosenblum, Aidan Saavedra Buckley, Kate Schoenbach, Shannon Seitz, Riddhima Sharma, Jesse Shea, Danielle Sheer, Yanying Sheng, Eric Smiley, Mike Spinney, Ian Staeheli, Patricio Suarez Urtaza, Matt Summers, Neal Tan, Evelyn Taylor-McGregor, Brett Tobin, David Toniatti, Kate Uthe,

Jahnvi Vaidya, Katie Williams, Frances Yen, Brad Young, Tom Yu, Haimin Zhang, and Luise Zhong.

INTRODUCTION

The Massachusetts Technology Leadership Council (MassTLC), the region's largest non-profit technology organization, joined the national conversation on the role that immigrants play in our economy with its submission of amicus briefs in the District Court of Hawaii and the U.S. Court of Appeals for the 4th and 9th Circuits. These briefs support the plaintiffs in those cases, who have sought to enjoin the President's Executive Orders restricting travel to the U.S. from certain countries.

While it is well understood within the technology community that diversity and the global mobility of talent and ideas into our country are critical drivers of U.S. innovation, economic growth, and global competitiveness, we felt that the submission of amicus briefs requires better documentation and sourcing of these commonly held truths. This report reflects our work to document the impact that immigrants have on our economy.

We entered this dialogue on behalf of the tech community in Massachusetts because, as a leading technology state, we feel the acute impact that immigrants have in our economy. As Governor Charlie Baker noted, "Massachusetts is a global community, and we all benefit from the shared experiences of our partners from around the world to support our economy and educational institutions [and] make our state the best place to live, work, and raise a family."

This report illustrates a rich tapestry of unique impacts across the country. We hope this

compilation of research contributes to a productive dialogue about the important role immigrants play as critical drivers of our national leadership in innovation, economic growth, and global competitiveness.

We encourage readers of this report to lend their voices to the conversation and use this research to complement personal insights and experiences about the role of immigrants. We welcome broad sharing of this report and have made it freely available for download at the following URL: www.MassTLC.org/Immigration.
Thank you,

/s/ Thomas Hopcroft
Thomas Hopcroft
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Trustee, MassTLC

/s/ Steve Kaufer
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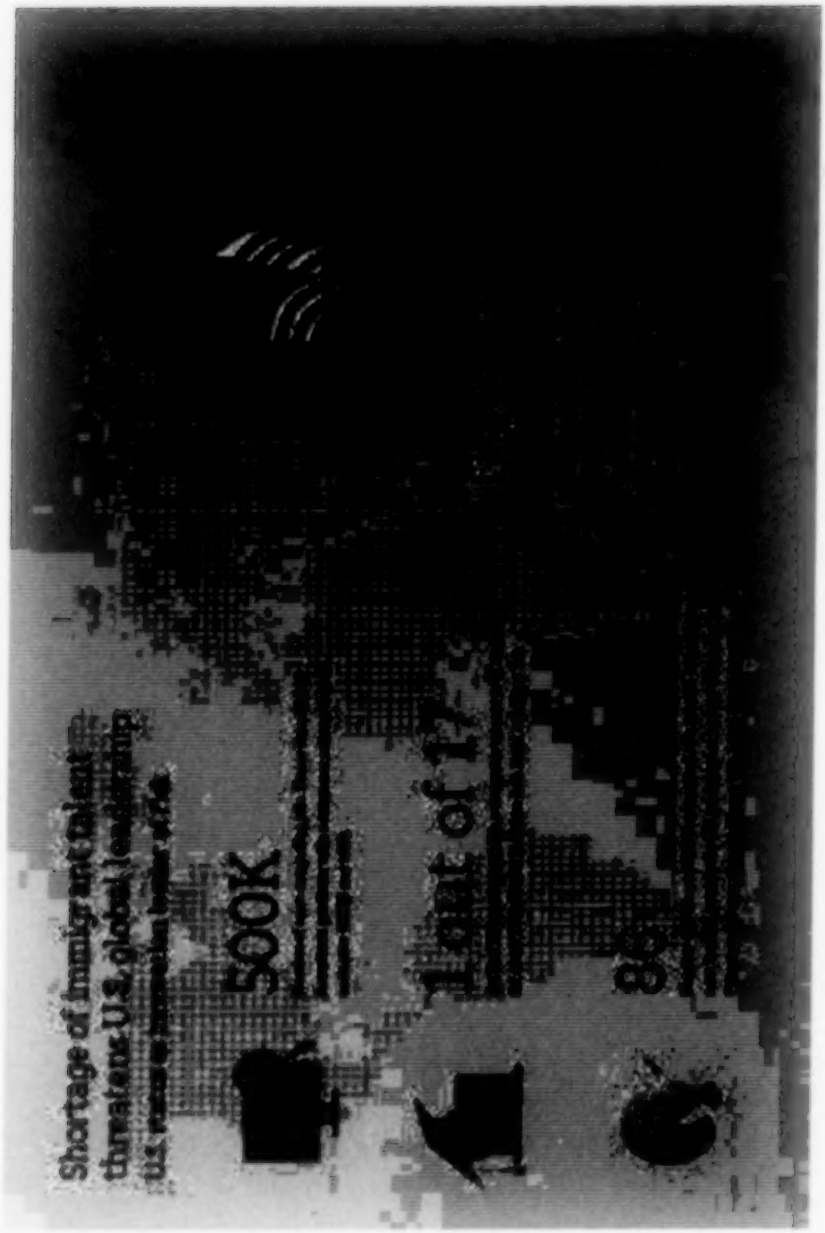
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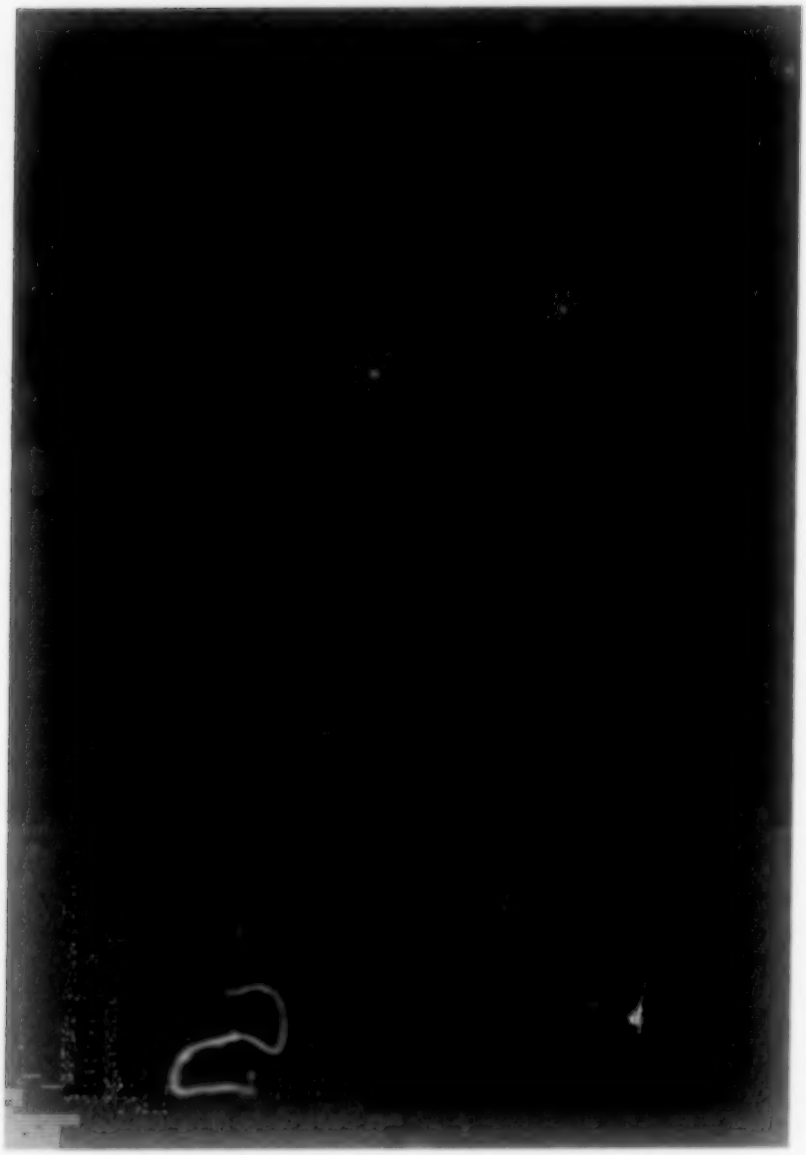

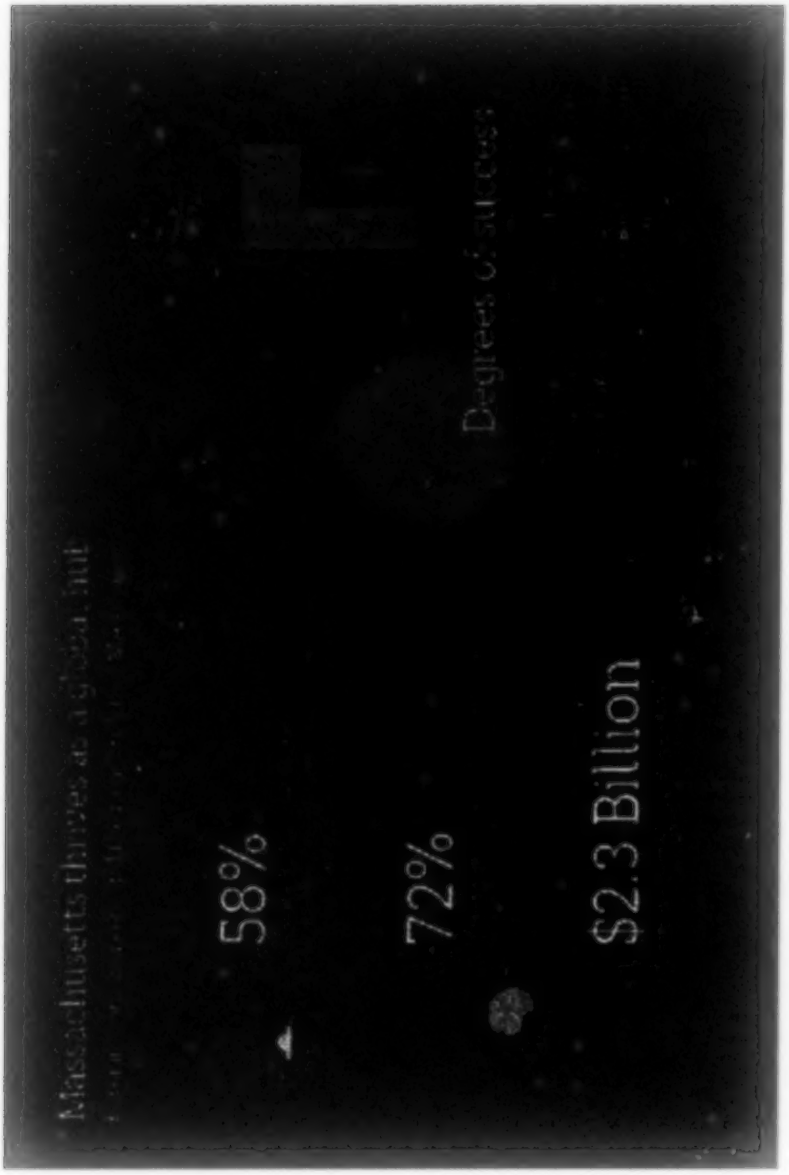
58%
72%
$2.3 Billion

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I. EXECUTIVE SUMMARY

A. The Impact of Immigration on the Tech Industry

The technology industry is a critical driver of the U.S. economy. In Massachusetts alone, nearly 400,000 people work in jobs that are either in the technology sector, or are in technology-related occupations in other sectors, together comprising about 13 percent of the state's total workforce. The tech industry is a global enterprise, fueled in large part by immigration and international travel. As of January 1, 2016, "[i]mmigrants have started more than half (44 of 87) of America's startup companies valued at $1 billion dollars or more and are key members of management or product development teams in over 70 percent (62 of 87) of these companies." More than half of Silicon Valley's corporate founders are immigrants.

The integral role that immigrants play in the technology industry is one of job creation, innovation, and leadership. Far from taking jobs, immigrants are creating jobs for the native-born population and helping meet the needs of an industry constrained by a lack of skilled workers. By 2020, for example, projections indicate that 1.4 million computer specialist positions will be open in the United States, but domestic universities will only produce enough graduates to fill 29 percent of those jobs. In Massachusetts today, there are seventeen technology jobs for every person who graduates with a college degree in computer science or information technology.

Immigrants are responsible for substantial economic growth. This is true of the U.S. economy where, in

2015, immigrants contributed $2 trillion to the U.S. GDP, representing 11 percent of the country's total GDP. It is also true of the Massachusetts economy, where one study found that if half of Massachusetts' 3,608 advanced level graduates in science, technology, engineering, and mathematics (STEM) related fields, studying on temporary visas, remained in Massachusetts upon graduation, then 4,726 new jobs would be created for U.S.-born workers by 2021.

Research indicates that immigrant students are disproportionately more likely to get their degrees in a STEM field – an area of critical domestic talent shortages – and that international students make up over 30 percent of the post-baccalaureate degrees in STEM fields. Furthermore, individuals from Iran, Libya, Somalia, Sudan, Syria, and Yemen – the six countries subject to the President's revised Executive Order – are more likely to have a bachelor's degree, approximately twice as likely to have a graduate degree, and four times as likely to have a doctoral degree relative to the native-born population. In addition to this population being disproportionately educated and skilled, they are also part of a population making immediate impacts on the U.S economy. During the 2015-16 academic year alone, international students contributed $32.8 billion to the U.S. economy and supported more than 400,000 jobs.

Immigrants also drive the development of inventions and other useful arts. For example, in 2011, 76 percent of patents awarded to the Top 10 patent-producing U.S. universities had an inventor that was foreign-born. In recent years, foreign nationals contributed to more than three quarters of patents in

the fields of information technology, molecular and microbiology, and pharmaceuticals. The amount of invention originating from immigrants can have dramatic effects on innovation, with discernable spillover effects. One academic study noted that a 1.3 percentage point increase in the share of the overall U.S. population composed of immigrant college graduates, and a 0.7 percentage point increase in that same share composed of post-graduate immigrants, led to an increase in patenting by approximately 12 percent to 21 percent. Similarly, as little as a 0.45 percentage point increase in immigrant scientists and engineers in the overall U.S. population increases patenting per capita by approximately 13 to 32 percent. High-skilled immigration has an important and discernable impact on patenting, a key indicator of innovation in the economy.

The highly-educated foreign-born scientists, mathematicians, and engineers also represent some of the best in the field. Forty percent of the Nobel Prizes won by Americans in Chemistry, Medicine, and Physics since 2000 were awarded to immigrants. In 2016, all six American winners of the Nobel Prize in economics and scientific fields were foreign-born. From 2010-2015, four out of eight American recipients of the Turing Award (for computing) were first or second generation immigrants. Since 1936, 63 percent of Fields Medal (for mathematics) recipients affiliated with a U.S. research institution have been foreign-born (and all such recipients have been foreign-born since 2002). Forty percent of National Medal of Science recipients in math or computer science are foreign-born. In Massachusetts, 37 percent of Nobel Prize winners

associated with MIT are foreign-born; 33 percent of Nobel Prize winners who are current faculty or alumni at Harvard University are foreign-born; and 75 percent of Nobel Prize winners who have been affiliated with Boston University are foreign-born.

American companies that are household names—Microsoft, McDonald's, U.S. Steel—are led by foreign-born CEOs. As of 2016, over 10 percent of Fortune 500 CEOs were born outside of the U.S.; the same was true for 14 percent of Fortune 100 CEOs. In 2016, over 40 percent of Fortune 500 firms were founded either by an immigrant or a child of immigrants. The same holds true in Massachusetts. More than half of the Massachusetts-based Fortune 500 companies were founded by immigrants, or by children of immigrants. Their impact on the Massachusetts economy has been significant, generating over $130 billion in annual revenue, and employing nearly half a million people around the world. At the beginning of this decade, over 17 percent of all business owners in Massachusetts were foreign-born. In 2013, the same was true of nearly 19 percent of business owners in the greater Boston area.

From 2006 to 2010, Massachusetts businesses owned by new immigrants had a total net business income of $2.8 billion. Prominent American innovators, past and present, hail from countries directly targeted by the Revised Travel Ban, including Steve Jobs; the co-founder of Apple whose father is from Syria; Ali Hajimiri, an academic and entrepreneur who holds over 85 U.S. and European patents and is from Iran; and Joe Kiani, founder, chairman, and CEO of Masimo who is also from Iran. Iranian-Americans

either founded or lead mainstays of the technology sector like Twitter, Dropbox, Oracle, and eBay. Similarly, several of the top venture capitalists who fund new technology companies were born in Tehran.

The field of medicine has also benefitted greatly from immigrants. More than 25 percent of physicians practicing in the United States are foreign-born. Importantly, foreign-born physicians are disproportionately represented in rural clinics and public safety-net hospitals treating isolated and vulnerable populations. The simple reason for this is that the United States does not produce enough physicians to keep up with demand. A current deficit of 11,000 physicians is expected to grow as the population grows and ages. It is estimated that U.S. will face a shortage of up to 94,700 doctors by 2025. Almost a third of the shortage will be primary care physicians. More than 8,400 doctors working in the U.S. are from Iran and Syria, two of countries listed in the Revised Travel Ban. In Massachusetts, almost 1 in 4 physicians graduated from a medical school outside of the United States, suggesting non-U.S. origin.

B. The Implications of the Travel Ban on Innovation and the Economy

Creating unnecessary barriers for foreign innovators and job creators is likely to have an adverse impact on the technology industry and threaten the innovation capacity and economic prosperity of the United States in general, and Massachusetts specifically. Indeed, Massachusetts has one of the highest numbers of applications for temporary non-agricultural work permits in the United States. A

potential impact of the executive order will be the destabilization of the workforce and the reduction of U.S. competitiveness. Microsoft's public securities filings explain that "[c]hanges to U.S. immigration policies that restrain the flow of technical and professional talent may inhibit our ability to adequately staff our research and development efforts."

In addition to stifling recruiting from certain countries, the Revised Travel Ban could accelerate the rise of technology hubs abroad, making such locales as Vancouver, London, and Singapore more "attractive alternatives to existing hubs" of technology than the United States, and force companies based abroad to put off opening offices in the United States. It will also likely result in the relocation of foreign-born employees from the United States to other counties where they can reside without fear of a sudden revocation of their rights to access their families and homes.

The Massachusetts technology sector expects to feel this impact acutely. As reported in the press, numerous Boston-based businesses have expressed grave concerns regarding the Administration's travel ban and its potential expansion. As Jeff Bussgang, a general partner at the venture capital firm Flybridge and professor at Harvard Business School stated, the travel ban is "the innovation economy's worst nightmare." Paul English, founder of the travel booking site Kayak and startup Lola, expressed concern about a Mexican national hired to develop an app who was worried about traveling out of the country to visit his family. Leaders of Massachusetts-headquartered technology companies from large to small—including GE, TripAdvisor,

Carbonite, Brightcove, and Fuze—have expressed concern over the direct impact that implementation of the original Travel Ban had on their businesses. This anecdotal evidence is strongly supported by the empirical data contained in this report: a high percentage of founders, managers, and employees of Massachusetts technology companies are immigrants and potentially impacted by the Revised Travel Ban, either directly or indirectly.

The impact of the Revised Travel Ban also inhibits the ability of the Massachusetts technology industry to compete in the international marketplace. It discourages travel to the U.S. by potential customers and investors, either because they are directly impacted by the ban, or out of concern that the ban could be unexpectedly expanded. Indeed, this is not a theoretical concern. Flight bookings to the United States from January 28, 2017 to February 4, 2017 dropped by 6.5 percent overall in comparison to the previous year. Bookings to the United States from the six countries targeted by the Revised Travel Ban have dropped by 80 percent. Companies are already considering moving jobs outside of the U.S., locating businesses where employees live rather than enticing them to come to the U.S. Moving these jobs out of the country reduces employment in domestic support jobs that will be hired in proximity to these workers.

Similarly, the Revised Travel Ban discourages talented foreign students from attending local educational institutions, from which the technology industry hires many engineers and scientists to drive innovation in the United States. Foreign-born students already in the U.S. will be less likely to remain, as they may be unable to receive or renew a

visa, or may be fearful of that possibility. The Revised Travel Ban will inevitably reduce the relative strength of the domestic industry in global markets.

The technology industry, in Massachusetts as elsewhere, thrives on a culture of diversity, inclusivity, and equal opportunity. We hope that by compiling this research and highlighting the impact of immigration on the U.S. and Massachusetts economies, we can productively contribute to the national conversation and are able to illustrate the significant impact immigrants have on the growth and prosperity of our nation.

II. COST TO BUSINESSES IMPOSED BY THE EXECUTIVE ORDER

One of the primary contributions of immigrants[1] to the United States is as members of the workforce. From 1996 to 2010, immigrants accounted for roughly half of the U.S. labor force growth.[2] Strikingly, immigrants have also been leaders in innovation and entrepreneurship, comprising over

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[1] Unless otherwise noted, immigrants refer to foreign-born individuals who are residents of the United States.

[2] Orrenius, Pia M. and Madeline Zavodny, "Immigrants in the U.S. Labor Market," Federal Reserve Bank of Dallas, Working Paper 1306, September 2013, ***available at*** https://www.dallasfed.org/assets/documents/research/papers/2013/wp1306.pdf, ***accessed*** March 25, 2017, p. 8 ("Although they make up only 16 percent of U.S. workforce, these immigrants account for a much larger share of its growth. Just over half of the increase in the U.S. labor force between 1996 and 2010 was the result of immigration—legal and illegal").

half of Silicon Valley founders.[3] The executive order limiting work visas and immigration from select countries, however, creates significant levels of uncertainty for immigrant workers and their employers and has the potential to impose substantial costs on firms. The proposed order also increases incentives for firms to outsource their operations, reducing employment prospects in the United States generally.

KEY TAKEAWAYS

- **By 2020, it is estimated that 1.4 million computer specialist positions will be open. However U.S. universities will only produce enough graduates to fill 29 percent of these jobs. There are more than 500,000 open computing jobs, but less than 50,000 Americans graduate from college with computer-science degrees every year.**
- **The tech sector accounts for 20 percent of jobs in Massachusetts. At the same time, there is a shortage of graduates in tech-related fields; there is one graduate with degrees in computer science or information technology (IT) for every 17 technology jobs in Massachusetts.**

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[3] Kerr, William, "Why These Business School Professors Oppose Trump's Executive Order on Immigration," Harvard Business School Working Knowledge, January 31, 2017, *available at* http://hbswk.hbs.edu/item/why-these-business-school-professors-oppose-trump-s-executive-order-on-immigration, *accessed* March 25, 2017.

- **In 2014, immigrants comprised 15.6 percent of the population in Massachusetts and 26.6 percent of science, technology, engineering, and mathematics ("STEM") jobs.**
- **Almost 1 in 4 physicians in Massachusetts were graduates from a foreign medical school in 2016.**
- **Almost 60 percent of Fortune 500 companies based in Massachusetts were founded by immigrants or their children[4] and almost 20 percent of business owners in the Boston metropolitan area were foreign-born.**

C. Demand for H-1B Workers

- The private sector accounts for the intensity of demand for H1-B workers:
  - Top H1-B demands are from firms such as Wal-Mart, Merrill Lynch, Credit Suisse, JPMorgan Chase & Co.[5]

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4 "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 25, 2017, p. 3.

5 "The H-1B Visa Program: A Primer on the Program and Its Impact on Jobs, Wages, and the Economy," American Immigration Council, April 1, 2016, *available at* https://www.americanimmigrationcouncil.org/research/h1b-visa-program-fact-sheet, *accessed* March 25, 2017.

- Nearly two thirds of requests for H1-B visas are in STEM occupations with lower percentages of workers contributing to the healthcare, business, finance, and life sciences industries.[6]

- H1-B petitions approved in 2012, by detailed industry[7] (number of petitions; percent of approved H1-B Petitions):
  - Computer Systems Design & Related Services (110,414; 42 percent)
  - Colleges, Universities, and Professional Schools (16,167; 6.2 percent)
  - Software Publishers (5,367; 2.0 percent)
  - Management, Scientific, & Technical Consulting Services (4,915; 1.9 percent)
  - General Medical and Surgical Hospitals (4,533; 1.7 percent)
- Two thirds of foreign students pursue bachelor or higher level degrees in STEM, business, management, and marketing fields

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6 "The H-1B Visa Program: A Primer on the Program and Its Impact on Jobs, Wages, and the Economy," American Immigration Council, April 1, 2016, *available at* https://www.americanimmigrationcouncil.org/research/h1b-visa-program-fact-sheet, *accessed* March 25, 2017.

7 "Characteristics of H1B Specialty Occupation Workers: Fiscal Year 2012 Annual Report to Congress," U.S. Citizenship and Immigration Services, June 26, 2013, *available at* https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/H-1B/h1b-fy-12-characteristics.pdf, *accessed* March 25, 2017, p. 20 and Table 13A. Percent calculated as number of petitions in industry divided by total number of petitions.

in the United States as compared to 48 percent of American-born students.[8]

*i. **Massachusetts-Specific Facts***

- Boston is the city with the 6th highest number of H-1B visa sponsored MBAs.[9]

D. The Role of Immigrants in the Tech Industry

- The U.S. relies heavily on a steady stream of skilled engineers from other countries to help create its products, as indicated by the number of H1-B petitions approved in related sectors.[10]

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8 Ruiz, Neil G. "The Geography of Foreign Students in U.S. Higher Education: Origins and Destinations," Global Cities Initiative: A Joint Project of Brookings and JPMorgan Chase, August 2014, *available at* https://www.brookings.edu/wp-content/uploads/2014/08/Foreign_Students_Final.pdf, *accessed* March 25, 2017, p. 1.

9 Allen, Nathan, "Where MBAs Are Most Likely to Get an H1B Visa," Poets & Quants, March 1, 2017, *available at* http://poetsandquants.com/2017/03/01/mbas-likely-get-h1b-visa/, *accessed* March 10, 2017. This statistic is calculated using data from the 13,000 users of the website https://www.transparentcareer.com/. According to Sharyle Dirks, Associate Dean of Career Management at the Fuqua School of Business at Duke University, "Transparent's data looks entirely consistent with what we have seen and known to be true, specifically at Duke Fuqua over the past few years anecdotally, as well as talking with our other business school counterparts."

10 Wingfield, Nick and Mike Isaac, "Tech Industry Frets over Possible Immigration Changes," The New York Times, January 27, 2017, *available at* https://www.nytimes.com/2017/01/27/business/technology-h-1b-visa-immigration.html, *accessed* March 25, 2017.

- The U.S. does not produce enough professionals to fill all open high-tech jobs:
    - There are almost five open positions for every software developer looking for work[11]
- By 2020, it is estimated that 1.4 million computer specialist positions will be open, however U.S. universities will only produce enough graduates to fill 29 percent of these jobs.[12] There are more than 500,000 open computing jobs, but less than 50,000 Americans graduate from college with computer-science degrees every year.[13]

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11 Koetsier, John, "Hiring and Hirable in 2013: Agile Developers," VentureBeat, December 31, 2012, *available at* https://venturebeat.com/2012/12/31/hiring-and-hirable-in-2013-agile-developers/, *accessed* March 27, 2017 ("... 4.59 job postings for each and every job-seeking agile developer."). The statistic is calculated by talent discovery company Yoh and jobs site CareerBuilder.

12 Nager, Adams and Robert D. Atkinson, "The Case for Improving U.S. Computer Science Education," May 2016, *available at* http://www2.itif.org/2016-computer-science-education.pdf, *accessed* March 11, 2017, p. 3 ("In 2011, Code.org projected that the economy would add 1.4 million computing jobs by 2020, but educate just 400,000 computer science students by then"). The statistics were calculated by the authors using data from the Bureau of Labor Statistics, Code.org, Change the Equation, and the Information Technology and Innovation Foundation.

13 "Summary of Source Data for Code.org Infographics and Stats," Code.org, 2015, *available at* https://docs.google.com/document/d/1gySkItxiJn_vwb8HIIKNXqen184mRtzDX12cux0ZgZk/pub, *accessed* March 27, 2017 ("... there were 580,940 bachelor's degrees earned in STEM in 2015, and only 49,291 of those—8.48%—were in Computer Science... There are more than 500,000 open

- "Iranian-Americans founded or hold leadership positions at Twitter, Dropbox, Oracle, Expedia, eBay, and Tinder. Top venture capitalists like Shervin Pishevar, Pejman Nozad, and brothers Ali and Hadi Partovi, all of whom invest millions of dollars in technology startups, were born in Tehran."[14]
- "Immigrant founded engineering and technology firms employed approximately 560,000 workers and generated $63 billion in sales in 2012. Immigrant founders from top venture-backed firms have created an average of approximately 150 jobs per company in the United States."[15]

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computing jobs in the United States."). The number of current open computing jobs comes from the sum of the per-state jobs data from The Conference Board's Help Wanted OnLine service. The number of STEM and Computer Science graduates comes from the National Center for Education Statistics (NCES) IPEDS Completions Survey, obtained using the National Science Foundation (NSF) WebCASPAR tool.

[14] Waddell, Kaveh, "How Trump's Immigration Rules Will Hurt the U.S. Tech Sector," The Atlantic, February 1, 2017, *available at* https://www.theatlantic.com/technology/archive/2017/02/how-trumps-immigration-rules-will-hurt-the-us-tech-sector/515202/, *accessed* March 11, 2017.

[15] Stangler, Dane and Jason Wiens, "The Economic Case for Welcoming Immigrant Entrepreneurs," Kauffman Foundation, September 8, 2015, *available at* http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-economic-

- "In the United States as a whole, there are almost as many immigrants in white-collar jobs (46 percent) as in all other occupations combined."
    - "In some states, more than half [of immigrants] are in white-collar jobs… the perception that nearly all immigrants work in low-wage jobs is clearly inaccurate."[16]

*i. **Massachusetts-Specific Facts***

- The tech sector is critical to the state's economy. More than 294,000 people work directly for the technology sectors in Massachusetts, which combined with over 96,000 tech occupations in other sectors and over 733,000 indirect jobs supported by the tech sector, comprise approximately 35 percent of the workforce in Massachusetts.[17]

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case-for-welcoming-immigrant-entrepreneurs, *accessed* March 25, 2017.

16 Costa, Daniel, David Cooper, and Heidi Shierholz, "Facts About Immigration and the U.S. Economy," Economic Policy Institute, August 12, 2014, ***available at*** http://www.epi.org/publication/immigration-facts/, *accessed* March 25, 2017.

17 MassTLC, "The Connected Commonwealth: How the Massachusetts Tech Ecosystem is Creating New Growth Opportunities," 2016, ***available at*** http://www.masstlc.org/2016-state-of-technology-report/, *accessed* April 25, 2017, p. 14.

Together, tech is responsible for 31% of Massachusetts Gross State Product.[18]

- Put together, their output was worth $160 billion in 2013, the most recent year for which statistics were available."[19]
- "In the red-hot Massachusetts technology field, meanwhile, there are 17 jobs for every one graduate with a degree in computer science or IT."[20]
- In 2014, immigrants comprised 15.6 percent of the population in

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[18] MassTLC, "The Connected Commonwealth: How the Massachusetts Tech Ecosystem is Creating New Growth Opportunities," 2016, available at *http://www.masstlc.org/2016-state-of-technology-report/*, accessed April 25, 2017, p. 15.

[19] Adams, Dan, "Mass. Tech Sector Flourishing with Challenges Ahead," Boston Globe, March 13, 2015, ***available at*** https://www.bostonglobe.com/business/2015/03/12/report-mass-tech-sector-flourishing-but-challenges-ahead/BMzslVy0k1zB4cZVSH6DrK/story.html, *accessed* March 10, 2017.

[20] "The Degree Gap: Honing in on College Access, Affordability and Completion in Massachusetts," The Vision Project, June 2016, ***available at*** http://www.mass.edu/visionproject/_documents/2016%20The%20Degree%20Gap%20-%20Vision%20Project%20Annual%20Report.pdf, *accessed* March 25, 2017, p. 14.

Massachusetts and 26.6 percent of STEM jobs.[21]

- "If half of Massachusetts' 3,608 advanced level STEM grads on temporary visas stayed in the state after graduation…4,726 jobs for U.S.-born workers would be created by 2021."[22]

E. The Role of Immigrants in Medicine

- More than 25 percent of physicians practicing in the United States are foreign-born.[23] Foreign-born physicians are disproportionally represented in rural clinics and public safety-

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21 "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 25, 2017, p. 13.

22 "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 11, 2017, p. 14.

23 McCabe, Kristen, "Foreign-Born Health Care Workers in the United States," Migration Policy Institute, June 27, 2012, *available at* http://www.migrationpolicy.org/article/foreign-born-health-care-workers-united-states#4, *accessed* March 10, 2017 ("Of the roughly 853,000 health care professionals employed as physicians and surgeons in 2010, more than one-quarter (27 percent) were foreign born.").

net hospitals treating isolated and vulnerable populations.[24]

- The reason such doctors are in the U.S. in the first place is that America does not produce enough physicians to keep up with demand. According to a report published by the Association of American Medical Colleges (AAMC) in 2016, a current deficit of 8,200 primary care doctors and 2,800 psychiatrists is expected to grow as the population grows and ages.[25] The AAMC estimates that the U.S. will face a shortage of up to 94,700 doctors by 2025. Almost a third of the shortage will be primary care physicians.[26]

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[24] Ross, Casey, and Max Blau, "US health care relies heavily on foreign workers. Trump's immigration ban is raising alarms," STAT, January 30, 2017, ***available at*** https://www.statnews.com/2017/01/30/trump-immigration-ban-health-workers/, *accessed* March 10, 2017.

[25] Dall, Tim, Terry West, Ritashree Chakrabarti, and Will Iacobucci, "The Complexities of Physician Supply and Demand: Projections from 2014 to 2025," IHS Inc. and the Association of American Medical Colleges, April 5, 2016, ***available at*** https://www.aamc.org/download/458082/data/2016_complexities_of_supply_and_demand_projections.pdf, *accessed* March 11, 2017, p. 36.

[26] Dall, Tim, Terry West, Ritashree Chakrabarti, and Will Iacobucci, "The Complexities of Physician Supply and Demand: Projections from 2014 to 2025," IHS Inc. and the Association of American Medical Colleges, April 5, 2016, ***available at*** https://www.aamc.org/download/458082/data/2016_complexities_of_supply_and_demand_projections.pdf, *accessed* March 11, 2017, p. 37, Exhibit 22.

More than 8,400 doctors working in the U.S. are from the two countries listed in the executive order – Syria and Iran.[27]

- The share of health care workers that are foreign-born was 5 percent in the 1960s and was as high as 30 percent by the 1990s.[28]
- Healthcare has the largest percentage of foreign-born and foreign-trained workers of any industry in the country.[29]

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27 Yasmin, Seema, "Trump Immigration Ban Can Worsen U.S. Doctor Shortage, Hurt Hospitals," Scientific American, February 1, 2017, *available at* https://www.scientificamerican.com/article/trump-immigration-ban-can-worsen-u-s-doctor-shortage-hurt-hospitals/, *accessed* March 10, 2017 ("More than 8,400 doctors working in the U.S. are from two countries listed in the executive order—Syria and Iran—according to data from the American Medical Association.").

28 Carnevale, Anthony P., Nicole Smith, Artem Gulish, and Bennett H. Beach, "Healthcare Executive Summary," Georgetown Public Policy Institute Center on Education and the Workforce, June 2012, *available at* https://cew.georgetown.edu/wp-content/uploads/2014/11/Healthcare.ExecutiveSummary.090712.pdf, *accessed* March 25, 2017, p. 12.

29 Carnevale, Anthony P., Nicole Smith, Artem Gulish, and Bennett H. Beach, "Healthcare Executive Summary," Georgetown Public Policy Institute Center on Education and the Workforce, June 2012, *available at* https://cew.georgetown.edu/wp-content/uploads/2014/11/Healthcare.ExecutiveSummary.090712.pdf, *accessed* March 25, 2017, p. 12 ("Healthcare has largest proportion of foreign-born and foreign-trained

- Data on older Medicare patients admitted to hospital in the U.S. showed that patients treated by graduates of foreign medical programs had lower mortality than patients cared for by U.S. graduates.[30]

  i. Massachusetts-Specific Facts

  - "This year's *Boston Business Journal* list of the 50 largest employers in Massachusetts, which excludes government jobs, totals more than 410,000 Bay State employees. Led by No. 1-ranked Partners Health Care System's 67,600 Massachusetts employees, the 13 health care companies on the list alone comprise more than 172,366 (in some cases this includes per diem and temp workers) of those employees."[31]

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workers in the country. Foreign-born workers make up nearly a quarter (22 percent) of the healthcare workforce, nearly twice the national average.").

[30] Tsugawa, Yusuke, Anupam B. Jena, E. John Orav, and Ashish K. Jha, "Quality of Care Delivered by General Internists in US Hospitals Who Graduated from Foreign versus US Medical Schools: Observational Study," *BMJ* 356:j273, February 3, 2017, *available at* http://www.bmj.com/content/356/bmj.j273, *accessed* March 25, 2017.

[31] "The List: Health Care, Higher Ed Dominate Bay State's Largest Employers," Boston Business Journal, July 8, 2016, *available at* http://www.bizjournals.com/boston/news/2016/07/08/the-list-health-care-higher-ed-dominate-bay-state.html, *accessed* March 25, 2017.

- "In 2016 almost 1 in 4 physicians in Massachusetts graduated from a foreign medical school, a likely sign they were born elsewhere."[32]

F. Impact of Visa Restrictions on American Employers

i. Potential Impact of the Proposed Order on Risk and Instability of American Workforces

- According to Microsoft, "[c]hanges to U.S. immigration policies that restrain the flow of technical and professional talent may inhibit our ability to adequately staff our research and development efforts."[33]
- The Computing Research Association, a non-profit organization representing computing professionals in academia, government laboratories, and other areas, noted that the proposed order "creates uncertainty and potential hardship among current students and researchers already here making

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[32] "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 25, 2017, p. 15.

[33] Microsoft Corporation, Form 10-Q for the Quarter Ending December 31, 2016, *available at* https://www.sec.gov/Archives/edgar/data/789019/000119312516441821/d15167d10q.htm, *accessed* April 14, 2017, p. 58.

important contributions and endangers our leadership role in a key field."[34]

ii. Potential Impact of the Proposed Order on the Competitiveness of U.S. Firms

- The proposed executive order could accelerate the rise of technology hubs abroad. Vancouver, London, and Singapore are "attractive alternatives to existing hubs in the West Coast of the United States."[35]
- Companies that are based abroad may put off opening offices in the United States:
    - "Already, the number of billion-dollar technology start-ups, commonly called 'unicorns,' that are located outside the United States has been increasing significantly. Fifteen years ago, almost all were in the United States, while today 86 of the 191 unicorns are in countries such as China and India. We can expect this trend to accelerate because the Trump administration has

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[34] Wingfield, Nick and Mike Isaac, "Tech Industry Frets Over Possible Immigration Changes," The New York Times, January 27, 2017, *available at* https://www.nytimes.com/2017/01/27/business/technology-h-1b-visa-immigration.html, *accessed* March 25, 2017.

[35] Waddell, Kaveh, "How Trump's Immigration Rules Will Hurt the U.S. Tech Sector," The Atlantic, February 1, 2017, *available at* https://www.theatlantic.com/technology/archive/2017/02/how-trumps-immigration-rules-will-hurt-the-us-tech-sector/515202/, *accessed* March 11, 2017.

just added fuel to the fire of innovation abroad and handicapped our own technology industry."[36]

- "In fiscal year 2012, fewer than 5% of those who obtained U.S. permanent resident status were professionals with advanced degrees, compared to over 9% of those granted permanent resident status in Canada…Only 14% of U.S. green cards authorizing permanent residence – and a path to citizenship – were granted for employment purposes in 2012, compared to the 62% of Canadian immigrants who were admitted for economic reasons….Immigrants want to come to the United States because they see opportunity in gaps in our economy that they have the skills to fill. Instead, many are choosing Canada."[37]

iii. Outsourcing

- Research points to an inverse relationship between temporary immigration and product

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[36] Wadhwa, Vivek, "Why Trump's Travel Ban Is So Harmful to the Tech Economy," The Washington Post, January 30, 2017, *available at* https://www.washingtonpost.com/news/innovations/wp/2017/01/30/why-trumps-travel-ban-is-so-harmful-to-the-tech-economy/?utm_term=.54c1ef2a182a, *accessed* March 27, 2017.

[37] Furchtgott-Roth, Diana, "U.S. Loses to Canada When It Comes to Immigration," MarketWatch, October 18, 2013, *available at* http://www.marketwatch.com/story/in-immigration-us-loses-out-to-canada-2013-10-18, *accessed* March 25, 2017.

outsourcing. When the number of H-1B visas issued by the U.S. government decreases, product outsourcing increases.[38]

- Economic research on the effects of outsourcing on blue-collar and white-collar wages finds that outsourcing can decrease the wage of native-born white-collar workers when outsourcing industries are blue-collar worker intensive compared with non-outsourcing industries.[39] Using U.S. product manufacturing data, outsourcing has been found to decrease the relative wage of white-collar workers in the 1970s.[40]

iv. Impact on Massachusetts

- According to Jerry Rubin, president of the Jewish Vocational Service, many key

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38 Das, Simontini, Ajitava Raychaudhuri, and Saikat Sinha Roy, "Immigration versus Outsourcing: A Developing Country's View," *Journal of Economic Development*, 37:2, June 2012, *available at* http://www.jed.or.kr/full-text/37-2/5.pdf, *accessed* April 14, 2017, pp. 129-131.

39 Hsu, Kuang-Chung, "Does Outsourcing Always Benefit Skilled Labor?" *Review of International Economics*, 19:3, August 2011, *available at* http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9396.2011.00964.x/epdf, *accessed* April 14, 2017, p. 539-554.

40 Hsu, Kuang-Chung, and Hui-Chu Chiang, "The Impact of International Outsourcing on U.S. Workers' Wages: Rethinking the Role of Innovation," *International Journal of Economics and Finance*, 6:5, April 25, 2014, *available at* http://ccsenet.org/journal/index.php/ijef/article/view/33719/20417, *accessed* April 14, 2017, p. 1.

industries in Boston, such as health care and food services, have labor shortages. "[With] the native-born population remaining relatively flat, the demand for bilingual workers soaring, and a large number of workers reaching retirement age, immigrants are essential to keep the economy from 'grinding to a screeching halt.'"[41]

- Immigration is a key source of growth for Boston's labor supply. Between 1980 and 2010, the number of foreign-born workers in Boston has tripled, while the number of native-born workers grew by 4 percent.[42] In 2015, 32 percent of working age people moving into the Boston area were immigrants who moved directly from abroad.[43]

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41 Johnston, Katie. "MIT Study: Immigrants Vital to Boston's Economy," *Boston Globe*, May 17, 2017, *available at* https://www.bostonglobe.com/business/2017/05/17/mit-study-immigrants-vital-boston-economy/l9PszENhVRsffVWvQVa1yO/story.html, *accessed* May 17, 2017.

42 Johnston, Katie. "MIT Study: Immigrants Vital to Boston's Economy," *Boston Globe*, May 17, 2017, *available at* https://www.bostonglobe.com/business/2017/05/17/mit-study-immigrants-vital-boston-economy/l9PszENhVRsffVWvQVa1yO/story.html, *accessed* May 17, 2017. This statistic was provided by Marilynn Johnson, author of "The New Bostonians: How Immigrants Have Transformed the Metro Area since the 1960s."

43 Osterman, Paul, William Kimball, and Christine Riordan, "Boston's Immigrants: An Essential Component of a Strong Economy," Jewish Vocational Service, May 10, 2017, *available at* https://jvs-boston.org/images/pdf/Osterman%20Report%20-

- "3,806 H-1B denials for tech workers in the metro area cost computer workers [in Boston in 2007 and 2008 cost] 3,176 potential new jobs and $72.9M in aggregate wage growth in the two years that followed. 964 H-1B denials for tech workers in the metro area cost computer workers [in Worcester in 2007 and 2008 cost] 761 potential new jobs and $14.7M in aggregate wage growth in the two years that followed."[44]
- "58% of Fortune 500 companies based in Massachusetts were founded by immigrants or their children. Those firms generate $136.8B in annual revenue, and employ 466,892 people globally."[45]

%20Final.pdf, *accessed* May 22, 2017, p. 7 and Table 5. This statistic was calculated using American Community Survey data.

[44] "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 25, 2017, p. 21.

[45] "The Contributions of New Americans in Massachusetts," New American Economy, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 10, 2017, p. 3 ("58% of Fortune 500 companies based in Massachusetts were founded by immigrants or their children. Those firms generate $136.8B in annual revenue, and employ 466,892 people globally").

- In 2010, 17.9% of all business owners in Massachusetts were foreign-born.[46]
- In 2013, 18.8% of business owners in the Boston metropolitan area were foreign-born.[47]
- From 2006 to 2010, new immigrant business owners in Massachusetts had total net business income of $2.8 billion, which makes up 14% of all net business income in the state.[48]

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[46] Kallick, David Dyssegaard, "Immigrant Small Business Owners: A Significant and Growing Part of the Economy," Fiscal Policy Institute, June 2012, ***available at*** http://www.fiscalpolicy.org/immigrant-small-business-owners-FPI-20120614.pdf, *accessed* March 10, 2017, p. 24 and Figure 24.

[47] "Interactive: the Impact of Immigrants on Main Street Business and Population in U.S. Metro Areas," Fiscal Policy Institute and Americas Society/Council of the Americas, January 14, 2015, ***available at*** http://www.as-coa.org/articles/interactive-impact-immigrants-main-street-business-and-population-us-metro-areas, *accessed* March 10, 2017. The "Foreign Born Share of Business Owners" from the American Community Survey 2013 5-Year Data is 18.8% for the Boston-Cambridge-Quincy, MA-NH Metropolitan Statistical Area.

[48] Fairlie, Robert W., "Open for Business: How Immigrants are Driving Small Business Creation in the United States," Partnership for a New American Economy, August 2012, ***available at*** http://www.renewoureconomy.org/sites/all/themes/pnae/openforbusiness.pdf, *accessed* March 10, 2017, p. 33. This statistic was calculated using data from the American Community Survey, 2006-2010.

III. IMPACT OF IMMIGRANTS ON INNOVATION AND PRODUCTIVITY

Academic and industry research have shown that immigration has a positive impact on innovation, productivity, and leadership.

KEY TAKEAWAYS

- **Many iconic American brands are led by foreign-born CEOs. As of March 1, 2016, 10.8 percent of Fortune 500 CEOs were born outside of the U.S, and 14 percent of Fortune 100 CEOs were born outside of the U.S.**
- **More than half of America's startup companies valued at $1 billion dollars have immigrant founders, and many key members of management or product development teams in these startups are immigrants.**
- **Many prominent American innovators, past and present, hail from countries directly targeted by the Executive Order. These individuals include Steve Jobs, Ali Hajimiri, and Joe Kiani.**
- **Academic research shows that there is a positive spillover effect of immigrant inventors and college graduates on native-born inventors, indicating that immigrants boost the rate at which native-born inventors file patents.**
- **Innovation from the native-born population increases with expansions of the H-1B program and the associated inflow of new workers.**

- **The Congressional Budget Office (CBO) estimated in 2013 that immigration reform that allows for an increase in the number of noncitizens who could lawfully enter the United States permanently or temporarily would boost real GDP by 5.4 percent by 2033, and add 9 million workers to the labor force.**

A. Immigrants in Leadership Positions

- "Some of the most iconic American brands – such as Microsoft, McDonald's and U.S. Steel – are led by foreign-born CEOs."[49]
  - As of March 1, 2016, "10.8% of Fortune 500 CEOs were born outside of the U.S."[50]
  - As of March 1, 2016, "14.0% of Fortune 100 CEOs were born outside of the U.S."[51]

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[49] "Immigrant CEOs of the Fortune 500," *Boardroom Insiders*, 2016, ***available at*** http://info.boardroominsiders.com/get-our-fortune-500-immigrant-ceo-list-for-free, *accessed* February 22, 2017.

[50] "Immigrant CEOs of the Fortune 500," *Boardroom Insiders*, 2016, ***available at*** http://info.boardroominsiders.com/get-our-fortune-500-immigrant-ceo-list-for-free, *accessed* February 22, 2017.

[51] "Immigrant CEOs of the Fortune 500," *Boardroom Insiders*, 2016, ***available at*** http://info.boardroominsiders.com/get-our-fortune-500-immigrant-ceo-list-for-free, *accessed* February 22, 2017.

- "Immigrants have started more than half (44 of 87) of America's startup companies valued at $1 billion dollars or more and are key members of management or product development teams in over 70 percent (62 of 87) of these companies."[52]
- Immigrants are entrepreneurial and are job creators.
    - Immigrants were nearly twice as likely to start new businesses as the native-born population as of 2015.[53]

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[52] Anderson, Stuart, "Immigrants and Billion Dollar Startups," *National Foundation for American Policy*, March 2016, *available at* http://nfap.com/wp-content/uploads/2016/03/Immigrants-and-Billion-Dollar-Startups.NFAP-Policy-Brief.March-2016.pdf, *accessed* March 10, 2017, p. 1 and Appendix 5. The article examines a list of billion dollar startups tracked by *The Wall Street Journal* available at http://graphics.wsj.com/billion-dollar-club/. The article also uses a mixture of company-provided information, company websites, *CrunchBase*, *LinkedIn*, and *The Wall Street Journal* to calculate the percent of immigrants who are key members of management or product development teams. For more information, see Appendix 5 of the cited article.

[53] "Reason for Reform: Entrepreneurship," *New American Economy*, October 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2016/12/Entrepreneur.pdf, *accessed* March 10, 2017, p. 1. This study was conducted using the 2013 American Community Survey 5-year data. *See* Kallick, David, "Bringing Vitality to Main Street: How Immigrant Small Businesses Help Local Economies Grow," *Fiscal Policy Institute and Americas Society/Council of the Americas*, 2015, *available at* http://www.as-

- In 2014, 20.6% of entrepreneurs in the U.S. were immigrants, while making up only 13.2% of the U.S. population.[54]
- Immigrants accounted for about a quarter of founders of new high-tech companies with at least one million dollars in sales in 2006.[55]
- In Massachusetts, 29% of new high-tech companies with at least one million dollars in sales in 2006 had at least one key founder who was foreign-born.[56]

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coa.org/sites/default/files/ImmigrantBusinessReport.pdf, *accessed* March 21, 2017.

[54] "Reason for Reform: Entrepreneurship," *New American Economy*, October 2016, ***available at*** http://www.newamericaneconomy.org/wp-content/uploads/2016/12/Entrepreneur.pdf, *accessed* March 10, 2017, p. 2.

[55] Wadhwa, Vivek, et al., "America's New Immigrant Entrepreneurs: Part I," Technical Report 23, Duke Science, Technology Innovation Papers, January 2007, ***available at*** https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 10, 2017, p.4. The authors used information provided by Dun & Bradstreet's Million Dollar Database, which contains information on U.S. companies with more than $1 million in sales, and 20 or more employees, and company branches with 50 or more employees.

[56] Wadhwa, Vivek, et al., "America's New Immigrant Entrepreneurs: Part I," Technical Report 23, Duke Science, Technology Innovation Papers, January 2007, ***available at***

- In 2016, 40.2% of Fortune 500 firms were founded by either an immigrant or the child of immigrants.[57]
- Businesses owned by immigrants employed over 5.9 million workers in 2007.[58]

B. Innovators from Targeted Countries

- Many prominent American innovators hail from countries directly targeted by the Executive Order. For example,
  - Steve Jobs (Syria), whose father, Abdul Fattah Jandali, was born in Homs, Syria, and immigrated to the United

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https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 10, 2017, p.4. The authors used information provided by Dun & Bradstreet's Million Dollar Database, which contains information on U.S. companies with more than $1 million in sales, and 20 or more employees, and company branches with 50 or more employees.

[57] "Reason for Reform: Entrepreneurship," *New American Economy*, October 2016, ***available at*** http://www.newamericaneconomy.org/wp-content/uploads/2016/12/Entrepreneur.pdf, *accessed* March 10, 2017, p. 2.

[58] "Reason for Reform: Entrepreneurship," *New American Economy*, October 2016, ***available at*** http://www.newamericaneconomy.org/wp-content/uploads/2016/12/Entrepreneur.pdf, *accessed* March 10, 2017, p. 2.

States to study in the 1950s.[59] Jobs is a co-founder of Apple.

- Ali Hajimiri (Iran), an academic, entrepreneur, and Fellow at the National Academy of Inventors, holds over 85 U.S. and European patents. Hajimiri is known for his research in "electronics and photonics integrated circuits, and their applications in various disciplines, including high-frequency and high-speed communications, sensing, imaging, and bio-sensing." In 2002, Hajimiri co-founded Axiom Microdevices.[60]
- Joe Kiani (Iran), who is the founder, chairman, and CEO of Masimo Corporation has more than 575 issued and pending patents worldwide. Kiani is prominent in the healthcare technology industry, especially technology relating to sensors, signal processing, and patient monitoring devices. Kiani's company Masimo Corporation pioneered products such as

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[59] Baig, Edward C, "Steve Jobs' biological father was Syrian migrant, some note," *USA Today*, November 16, 2015, *available at* http://www.usatoday.com/story/tech/columnist/baig/2015/11/16/steve-jobs-biological-father-syrian-migrant-some-note/75899450/, *accessed* March 19, 2017.

[60] "Ali Hajimiri," Caltech High-Speed Integrated Circuits, *available at* http://chic.caltech.edu/hajimiri/, *accessed* March 19, 2017.

"Masimo Patient SafetyNet™ – the first remote monitoring and wireless clinician notification system designed to help hospitals improve patient safety and clinical outcomes by dramatically decreasing rescue events and costly ICU transfers."[61]

C. Impact of Immigrants on Patent Activity

- Immigrants have a higher patenting rate than native-born individuals.[62]
    - "Massachusetts' immigrants also contribute to the state's economic growth and competitiveness by earning patents on cutting-edge research and products. In 2011, Massachusetts Institute of Technology (MIT) earned [i.e., granted] almost 168 patents, placing it among the top 10 most productive [universities] in the country. More than 72 percent of those patents

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61 "Company Overview of Masimo Corporation," *Bloomberg*, *available at* http://www.bloomberg.com/research/stocks/private/person.asp?personId=541010&privcapId=31167, *accessed* March 19, 2017.

62 Hunt, Jennifer, and Marjolaine Gauthier-Loiselle, "How Much Does Immigration Boost Innovation?," *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 37. This is based on data from the 2003 National Survey of College Graduates.

had at least one foreign-born inventor."[63]

- At MIT, "the rate of patenting is higher for foreign-born students (34 percent) than for U.S.-born students (30 percent)."[64]
- "...immigrants comprise a large and vital component of U.S. innovation with 35.5 percent of U.S. innovators born outside the United States."[65] "Another

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[63] "The Contribution of New Americans in Massachusetts," *New American Economy*, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 22, 2017, p. 14. The article uses data from a publication from the same organization. *See* Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf.

[64] Granados, Samuel, "How Today's Visa Restrictions Might Impact Tomorrow's America," The Washington Post, February 21, 2017, *available at* https://www.washingtonpost.com/graphics/national/visas-impact/, *accessed* March 10, 2017, p.11

[65] In their study, ITIF "surveyed more than 900 people who have made meaningful, marketable contributions to technology-intensive industries as award-winning innovators and international patent applicants." Nager, Adams et al., "The Demographics of Innovation in the United States," *Information Technology & Innovation Foundation*, February 2016, *available at* http://www2.itif.org/2016-demographics-of-innovation.pdf?_ga=1.211995860.1949709181.1488476922, *accessed* March 10, 2017, p. 5.

10 percent of innovators have at least one parent born abroad."[66]

- "Over 17 percent of innovators are not even U.S. citizens, yet are nonetheless making invaluable contributions to U.S. innovation. Immigrants born in Europe or Asia are over five times more likely to have created an innovation in America than the average native-born U.S. citizen."[67]
- "At the University of Illinois, for instance, nine out of 10 of the patents had at least one foreign national listed as an inventor, and almost 64% of patents had a foreign inventor who was

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66 Nager, Adams et al., "The Demographics of Innovation in the United States," Information Technology & Innovation Foundation, February 2016, ***available at*** http://www2.itif.org/2016-demographics-of-innovation.pdf?_ga=1.211995860.1949709181.1488476922, *accessed* March 10, 2017, pp. 1, 5. In their study, ITIF "surveyed more than 900 people who have made meaningful, marketable contributions to technology-intensive industries as award-winning innovators and international patent applicants."

67 Nager, Adams et al., "The Demographics of Innovation in the United States," Information Technology & Innovation Foundation, February 2016, ***available at*** http://www2.itif.org/2016-demographics-of-innovation.pdf?_ga=1.211995860.1949709181.1488476922, *accessed* March 10, 2017, p. 5. In their study, ITIF "surveyed more than 900 people who have made meaningful, marketable contributions to technology-intensive industries as award-winning innovators and international patent applicants."

not yet in a professorial role. This was despite the fact that in the fall of 2011, fewer than 47% of the graduate students studying STEM on Illinois's two patent-producing campuses were in the U.S. on temporary visas."[68]

- In 2011, 76% of patents awarded to the Top 10 patent-producing U.S. universities had an inventor that was foreign-born.[69]

D. Commercial Value of Immigrant Patents

- Immigrants' contributions to innovation as measured by patent activity have also had a

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[68] "Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 7. The study pulled data on graduate students enrolled in each major to conduct calculations. The data were obtained from University of Illinois at Chicago, Office of Institutional Research.

[69] "Patent Pending: How Immigrants are Reinventing the American Economy," Partnership for a New American Economy, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 1. The study relies on data on patent assignees available from Patent Full-Text and Image Database maintained by the U.S. Patent and Trademark Office, *available at* http://patft.uspto.gov/netahtml/PTO/. In most cases, when applying for a patent, inventors submit an oath or power of attorney form on which they indicate their citizenship. The study accessed these forms through the publicly-available Patent Application Information Retrieval, *available at* http://portal.uspto.gov/pair/PublicPair.

direct positive impact on university revenue, as demonstrated by how the top 10 U.S. patent-producing universities earned nearly $450 million in patent licensure revenue in FY 2010.[70]

- Patents filed by immigrants are more likely to be licensed or commercialized as compared to patents filed by native-born inventors, and patents that are licensed or commercialized are more likely to be beneficial to society.[71]

E. Immigrants Patenting by Field

- "Foreign nationals were listed as inventors on more than five out of six (84%) information-technology patents."[72]

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70 "Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 12. These figures were calculated using the results of the annual licensing survey from the Association of University Technology Managers.

71 Hunt, Jennifer, and Marjolaine Gauthier-Loiselle, "How Much Does Immigration Boost Innovation?," *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 37. This is based on data from the 2003 National Survey of College Graduates.

72 "Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 11. This statistic is based on data from the Patent Full-Text and

- "Almost eight out of ten (79%) patents for pharmaceutical drugs or drug compounds were invented or co-invented by a scientist born abroad."[73]
- "Immigrants contributed to 75% of patents in the molecular biology and microbiology fields."[74]
- Immigrants make significant contributions to the Science, Technology, Engineering, and Mathematics ("STEM") fields.

Image Database maintained by the US Patent and Trademark Office, *available at* http://patft.uspto.gov/netahtml/PTO/search-adv.htm.

[73] "Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 11. This statistic is based on data from the Patent Full-Text and Image Database and the publically available Patent Application Information Retrieval ("PAIR") website, both of which are maintained by the US Patent and Trademark Office, *available at* http://patft.uspto.gov/netahtml/PTO/search-adv.htm, and http://portal.uspto.gov/pair/PublicPair.

[74] "Patent Pending: How Immigrants are Reinventing the American Economy," *Partnership for a New American Economy*, June 2012, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/patent-pending.pdf, *accessed* March 10, 2017, p. 11. This statistic is based on data from the Patent Full-Text and Image Database maintained by the US Patent and Trademark Office, *available at* http://patft.uspto.gov/netahtml/PTO/search-adv.htm.

- 99% of the patents from the top 10 patent-generating universities by foreign-born inventors were in STEM fields, an area that will have a shortfall of 230,000 qualified advanced-degree workers by the year 2018.[75]
- As an added benefit, "[e]very graduate with an advanced degree working in a STEM-related field in the United States has been shown to create on average 2.62 additional jobs for native-born workers. Sending those people away doesn't protect American jobs, it jeopardizes them."[76]

F. Spillover Effects on Innovation by Immigrants

- Academic research shows that there is a positive spillover effect of immigrant inventors

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[75] "Press Release: New Study Reveals Immigrants Are Behind More Than Three-Quarters of Patents From Top Ten Patent-Producing American Universities," *New American Economy*, June 26, 2012, ***available at*** http://www.renewoureconomy.org/news/press-release-new-study-reveals-immigrants-behind-three-quarters-patents-top-ten-patent-producing-american-universities/, *accessed* March 10, 2017.

[76] "Press Release: New Study Reveals Immigrants Are Behind More Than Three-Quarters of Patents From Top Ten Patent-Producing American Universities," *New American Economy*, June 26, 2012, ***available at*** http://www.renewoureconomy.org/news/press-release-new-study-reveals-immigrants-behind-three-quarters-patents-top-ten-patent-producing-american-universities/, *accessed* March 10, 2017.

on native-born inventors, indicating that immigrants boost the rate at which native-born inventors file patents.[77]

- "The 1.3 percentage point increase in the share of the population composed of immigrant college graduates, and the 0.7 percentage point increase in the share of post-college immigrants," each increased patenting per capita in the U.S. by 12 to 21 percent.[78]
- A 0.45 percentage point increase in immigrant scientists and engineers in the U.S. increased patenting per capita in the U.S. by 13 to 32 percent.[79]

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77 Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* http://www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 51. This is based on data from the 2003 National Survey of College Graduates.

78 Specifically, "The 1.3 percentage point increase in the share of the population composed of immigrant college graduates, and the 0.7 percentage point increase in the share of post-college immigrants, each increased patenting per capita by about 12 percent based on least squares and 21 percent based on instrumental variables." Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 51. This is based on data from the 2003 National Survey of College Graduates.

79 Specifically, "The 0.45 percentage point increase in immigrant scientists and engineers increased patenting per

- "Immigration could boost innovation indirectly through positive spillovers on fellow researchers, the achievement of critical mass in specialized research areas, and the provision of complementary skills such as management and entrepreneurship."[80]
- The same positive spillover effect on patenting created through immigration may not be replicable by incentivizing the native-born population alone.[81]

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capita by about 13 percent based on least squares and 32 percent based on instrumental variables." Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 51. This is based on data from the 2003 National Survey of College Graduates.

[80] Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 31.

[81] Specifically, "One should be cautious in drawing the conclusion that innovation could be sustained by simultaneously subsidizing natives to study science and engineering and cutting immigration of scientists and engineers. The additional natives drawn into science and engineering might have lower inventive ability than the excluded immigrants, and such natives might have contributed more to the US economy outside science and engineering." Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2,

- There is also support for small crowding-in effects on native-born patenting from immigration due to H-1B expansions.[82]

- Additionally, there is evidence that native-born inventors' patents were not displaced by immigrants that were admitted as a result of expansions in the H-1B visa program.[83]

- Moser et al conclude that German Jewish emigres who fled Nazi Germany in the 1930s

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2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 52.

[82] "Overall, a 10% growth in the H-1B population corresponded with a 0.3%–0.7% increase in total invention for each standard deviation growth in city dependency [upon the H-1B program]." Kerr, William R., and William F. Lincoln. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics*, vol. 28, no. 3, 2010, pp. 473–508, *available at* www.jstor.org/stable/10.1086/651934, *accessed* March 5, 2017, p. 475. This analysis was based on data from the Current Population Survey, in addition to patent records from the U.S. Patent and Trademark Office.

[83] Kerr, William R., and William F. Lincoln. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics*, vol. 28, no. 3, 2010, pp. 473–508, *available at* www.jstor.org/stable/10.1086/651934, *accessed* March 10, 2017, p. 475. This analysis was based on data from the Current Population Survey, in addition to patent records from the U.S. Patent and Trademark Office.

and 1940s increased patenting in the United States by 31 percent.[84]

- Inventor-level data suggest that this increase in patenting can be attributed to emigrants attracting U.S. inventors to their fields.[85]
- Data also indicate that the number of patents filed by native-born inventors who collaborated with immigrant professors increased substantially in the 1940s and 1950s, suggesting that "emigre professors helped to increase U.S. invention in the long run, by training a new group of younger US invention in the long run, who then continued to train other scientists."[86]

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[84] Moser, Petra, et al. "German Jewish Émigrés and U.S. Invention." *The American Economic Review*, vol. 104, no. 10, 2014, pp. 3222–3255, ***available at*** www.jstor.org/stable/43495318, ***accessed*** March 5, 2017, p. 3222. This conclusion is drawn from an analysis of patent records available through Google Patents, ***available at*** https://patents.google.com, in addition to faculty directories at German and Austrian universities, among other sources.

[85] Moser, Petra, et al. "German Jewish Émigrés and U.S. Invention." *The American Economic Review*, vol. 104, no. 10, 2014, pp. 3222–3255, ***available at*** www.jstor.org/stable/43495318, ***accessed*** March 5, 2017, p. 3222. This conclusion is drawn from an analysis of patent records available through Google Patents, available at https://patents.google.com, in addition to faculty directories at German and Austrian universities, among other sources.

[86] Moser, Petra, et al. "German Jewish Émigrés and U.S. Invention." *The American Economic Review*, vol. 104, no.

G. Impact of Visa Restrictions on Innovation and Patenting

- Increases in high-skilled immigration due to expansions of the H-1B visa program are associated with higher levels of patent contributions from immigrants.
    - "Total [science and engineering] employment and [the number of] invention [in the U.S.] increases with higher [H-1B] admissions".[87]
    - Innovation from the native-born population also increases with expansions of the H-1B program and the associated inflow of new workers.[88]

10, 2014, pp. 3222–3255, *available at* www.jstor.org/stable/43495318, *accessed* March 5, 2017, p. 3253. This conclusion is drawn from an analysis of patent records available through Google Patents, available at https://patents.google.com, in addition to faculty directories at German and Austrian universities, among other sources.

[87] Kerr, William R., and William F. Lincoln. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics*, vol. 28, no. 3, 2010, pp. 473–508, *available at* www.jstor.org/stable/10.1086/651934, *accessed* March 5, 2017, p. 473.

[88] "Overall, a 10% growth in the H-1B population corresponded with a 0.3%–0.7% increase in total invention for each standard deviation growth in city dependency [upon the H-1B program]." Kerr, William R., and William F. Lincoln. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics*, vol. 28, no. 3, 2010, pp. 473–508, *available at*

- Firms that employ H-1B workers show higher rates of innovation when the national H-1B admission levels increase.[89]
- In Massachusetts, if all Labor Condition Applications (LCAs) for H-1B visas filed by employers in 2014 had turned into visas, H-1B workers could have created an estimated 61,256 jobs for US-born workers by the year 2020.[90]

H. Impact of Immigrant Students on Innovation and Patenting

- Increase in the share of foreign graduate students and skilled immigrants have a

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www.jstor.org/stable/10.1086/651934, *accessed* March 5, 2017, p. 475.

[89] Kerr, William R., and William F. Lincoln. "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention." *Journal of Labor Economics*, vol. 28, no. 3, 2010, pp. 473–508, *available at* www.jstor.org/stable/10.1086/651934, *accessed* March 5, 2017, p. 503.

[90] "The Contributions of New Americans in Massachusetts," *New American Economy*, August 2016, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/02/nae-ma-report.pdf, *accessed* March 24, 2017, pp. 20-21. The data on visa demand are drawn primarily from the 2014 Annual Report produced by the Office of Foreign Labor Certification within the U.S. Department of Labor. The multipliers use to produce these estimates originate in a 2011 report released by Partnership for a New American Economy and the American Enterprise Institute.

positive and strong impact on the generation of new ideas in the United States.

- *Patent quantity:* increase in the presence of foreign graduate students provides a positive and significant impact on patenting activity at both universities and private firms, thereby contributing to American innovation.[91]
- *Patent quality:* increase in the share of skilled immigrants associated with a rise in number of granted patents at universities.[92]

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[91] Chellaraj, Gnanaraj and Maskus, Keith E. and Mattoo, Aaditya, "The Contribution of Skilled Immigration and International Graduate Students to U.S. Innovation," World Bank Policy Research Working Paper No. 3588, May 2005, *available at* https://ssrn.com/abstract=744625, *accessed* March 5, 2017, p. 3. This study used data from the U.S. Department of Education *Education Statistics Quarterly*, the Institute for International Education *Open Doors*, the National Science Foundation *Science and Engineering Statistics*, the U.S. Patent and Trademark Office, the U.S. Census Bureau *Statistical Abstract of the United States*, and the *Economic Report of the President*.

[92] Chellaraj, Gnanaraj and Maskus, Keith E. and Mattoo, Aaditya, "The Contribution of Skilled Immigration and International Graduate Students to U.S. Innovation," World Bank Policy Research Working Paper No. 3588, May 2005, *available at* https://ssrn.com/abstract=744625, *accessed* March 5, 2017, p. 3. This study used data from the U.S. Department of Education *Education Statistics Quarterly*, the Institute for International Education *Open Doors*, the National Science Foundation *Science and Engineering Statistics*, the U.S. Patent and Trademark

- Academic research found that there are significant and positive spillovers on overall patenting activity associated with an increase in the proportion of immigrant college graduates.[93]
    - A "1 percentage point increase in immigrant college graduates' population share increases patent per capita by 9-18 percent."[94]

Office, the U.S. Census Bureau *Statistical Abstract of the United States*, and the *Economic Report of the President*.

[93] "For immigrant college graduates ... a 1 percentage point increase in share increases patenting per capita by 8–10 percent in least squares and 12–18 percent in instrumental variables, more than the 6 percent based on the individual-level data (statistically significantly so in the case of the highest coefficient), and therefore implying positive spillovers." Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 48. This study used data from the National Science Foundation *National Survey of College Graduates*, the U.S. Patent and Trademark Office, and the Harvard Business School *Patent Data File*.

[94] Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.jstor.org/stable/25760296, *accessed* March 5, 2017, p. 31. This study used data from the National Science Foundation *National Survey of College Graduates*, the U.S. Patent and Trademark Office, and the Harvard Business School *Patent Data File*.

I. Impact of Immigrants on Firms

- Allowing for more H-1B visa holders benefits firms:
  - Research suggests that when the H-1B visa cap is increased, firms that perform large amounts of research and development experience increased productivity and profits.[95]
    - For example, an increase in the cap on H-1B visas of 110,000 visas from 85,000 to 195,000 may lead to a 16% increase in firm profits.[96]
- An increase in the supply of foreign-born workers can improve firm outcomes.
  - There is evidence that an increase in the supply of foreign-born workers in an

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[95] Ghosh, Anirban, Anna Maria Mayda, and Francese Ortega, "The Impact of Skilled Foreign Workers on Firms: an Investigation of Publicy Traded U.S. Firms," *IZA Discussion Paper* No. 8684, November 2014, pp.1-47, *available at* http://ftp.iza.org/dp8684.pdf, *accessed* March 5, 2017, p.1. This study uses data from the Foreign Labor Certification Data *Labor Condition Applications (LCAs) Records*, and Compustat.

[96] Ghosh, Anirban, Anna Maria Mayda, and Francese Ortega, "The Impact of Skilled Foreign Workers on Firms: an Investigation of Publicy Traded U.S. Firms," IZA Discussion Paper No. 8684, November 2014, pp.1-47, *available at* http://ftp.iza.org/dp8684.pdf, *accessed* March 5, 2017, p.24. This study uses data from the Foreign Labor Certification Data Labor Condition Applications (LCAs) Records, and Compustat.

area leads to increased productivity, faster growth of capital, and better export performance for firms in that area.[97]

- These positive effects are especially potent for firms with fewer foreign-born employees prior to the increase.[98]

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[97] Mitaritonna, Cristina, Gianluca Orefice, Giovanni Peri, "Immigrants and Firms' Productivity: Evidence from France," *IZA Discussion Paper* No. 8063, March 2014, pp.1-38, ***available at*** http://anon-ftp.iza.org/dp8063.pdf, *accessed* March 5, 2017, p.1. The study uses data from the Declaration Annuelle dee Donnetes Sociales (DADS) databases, the O*NET Standard Occupational Classification (SOC) system, and the Annual Business survey (EAE). *See also*, Perri, Giovanni, "The Effect of Immigration on Productivity: Evidence from U.S. States," *The Review of Economics and Statistics*, 94, No. 1, February 2012, ***available at*** http://www.mitpressjournals.org/doi/abs/10.1162/REST_a_00137#.WPBnuvnyuUk, *accessed* March 5, 2017, pp. 348-358.

[98] Mitaritonna, Cristina, Gianluca Orefice, Giovanni Peri, "Immigrants and Firms' Productivity: Evidence from France," IZA Discussion Paper No. 8063, March 2014, pp.1-38, available at http://anon-ftp.iza.org/dp8063.pdf, accessed March 5, 2017, p.1. The study uses data from the Declaration Annuelle des Donnetes Sociales (DADS) databases, the O*NET Standard Occupational Classification (SOC) system, and the Annual Business survey (EAE). *See also*, Perri, Giovanni, "The Effect of Immigration on Productivity: Evidence from U.S. States," *The Review of Economics and Statistics*, 94, No. 1, February 2012, ***available at*** http://www.mitpressjournals.org/doi/abs/10.1162/REST_a_0

- Immigrants promote more efficient allocation of tasks within firms.
    - Academic literature suggests that immigrant workers lead to tasks being assigned more efficiently to both immigrant and native-born workers, increasing overall productivity.[99]
- "[C]ities whose employers faced large numbers of denials in the H-1B visa lotteries experienced considerably less job creation and wage growth for American-born computer workers in the two years that followed."[100]

0137#.WPBnuvnyuUk, *accessed* March 5, 2017, pp. 348-358.

[99] Peri, Giovanni, "The Effect of Immigration on Productivity: Evidence From U.S. States," *The Review of Economics and Statistics*, 94, No. 1, February 2012, pp. 348-358, *available at* http://www.mitpressjournals.org/doi/abs/10.1162/REST_a_00137#.WPBnuvnyuUk, *accessed* March 5, 2017, p. 357. This study uses data from the Integrated Public Use Microdata Samples (IPUMS), the U.S. Bureau of Economic Analysis, and the National Economic Accounts. The author conjectures that "at least part of the positive productivity effects are due to an efficient specialization of immigrants and natives in manual-intensive and communication-intensive tasks, respectively (in which each group has a comparative advantage), resulting in a gain in overall efficiency" (*see* p. 357).

[100] Peri Giovanni, Shish Kevin, Chad Sparber, and Angie Marek Zeitlin, "Closing Economic Windows: How H-1B Visa Denials Cost U.S.-Born Tech Workers Jobs and Wages During the Great Recession," *The Partnership for a New American Economy*, June 2014, pp. 1-36, *available at*

J. Impact of Immigrants on Productivity

- Considering earnings, patenting, commercializing and licensing patents, publishing books or papers and presenting at major conferences, immigrants on H-1B and J-1 visas outperformed native-born individuals.[101]
- In 2015, immigrants contributed $2 trillion to the U.S. gross domestic product (GDP), which represents 11 percent of its total GDP.[102]

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http://www.renewoureconomy.org/wp-content/uploads/2014/06/pnae_h1b.pdf, *accessed* March 5, 2017, p.4. The study uses data from the U.S Citizenship and Immigration Services, the U.S. Department of Labor, and the American Community Survey.

[101] Murray, Sara, "H-1B, J-1 Immigrants More Productive Than Americans, Study Says," *Wall Street Journal*, April 27, 2009, *available at* http://blogs.wsj.com/economics/2009/04/27/h-1b-j-1-immigrants-more-productive-than-americans-study-says/, *accessed* March 5, 2017.

[102] "People on the Move: Global Migration's Impact and Opportunity," *McKinsey Global Institute*, December 2016, *available at* http://www.mckinsey.com/~/media/McKinsey/Global%20Themes/Employment%20and%20Growth/Global%20migrations%20impact%20and%20opportunity/MGI-People-on-the-Move-Executive-summary-December-2016.ashx, *accessed* March 5, 2017, p. 56. This study used data from McKinsey Global Institute, the OECD database, the U.S. Bureau of Labor Statistics, the United Nations Department of Economic and Social Affairs (UNDESA), the United Nations High Commissioner for Refugees (UNHCR), the World Bank, and others.

- The Congressional Budget Office (CBO) estimated in 2013 that a reform that seeks to "revise laws governing immigration and the enforcement of those laws, allowing for a significant increase in the number of noncitizens who could lawfully enter the United States permanently or temporarily"[103] would boost real GDP by 5.4 percent by 2033, and add 9 million workers to the labor force.[104]
    - The CBO also finds that U.S. productivity would be about 0.7 percent higher in 2023 and about 1.0 percent

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[103] "The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act," *Congressional Budget Office*, June 2013, ***available at*** https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44346-Immigration.pdf, *accessed* March 5, 2017, p. 1. All data are from the Congressional Budget Office.

[104] The CBO calculated these numbers by comparing their economic projections under immigration reform to their baseline economic projections for FY 2013 to 2023. *See* "The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act," *Congressional Budget Office*, June 2013, ***available at*** https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44346-Immigration.pdf, *accessed* March 5, 2017, p. 3; "The Budget and Economic Outlook: Fiscal Years 2013 to 2023," *Congressional Budget Office*, February 2013, ***available at*** https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/43907-BudgetOutlook.pdf, *accessed* March 5, 2017. Data are from the Congressional Budget Office.

higher in 2033 under a reform scenario described above.[105]

- "The influx of immigrant college graduates in the 1990s increased U.S. GDP per capita by 1.4-2.4 percent."[106]
- The Bipartisan Policy Center (BPC) estimates that immigration reform that would seek to increase the growth of overall population and the workforce would increase GDP by 4.8 percent over 20 years.[107]

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[105] "The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act," *Congressional Budget Office*, June 2013, *available at* https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44346-Immigration.pdf, *accessed* March 5, 2017, p. 1. All data are from the Congressional Budget Office.

[106] Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics*, vol. 2, no. 2, 2010, pp. 31–56, *available at* www.istor.org/stable/25760296, *accessed* March 5, 2017, p. 52. This study used data from the National Science Foundation *National Survey of College Graduates*, the U.S. Patent and Trademark Office, and the Harvard Business School *Patent Data File*.

[107] The BPC study uses the CBO's analysis on the economic impact of immigration reform bill S. 744 as a reference case in which they construct their model on. The BPC has enlisted the help of Macroeconomic Advisers, LLC, in order to assess the economic and budgetary impact of the reference case immigration reform. A description of their methodology and assumptions can be found in Appendix A of the article. See "Immigration Reform: Implications for Growth, Budgets, and Housing," *Immigration Task Force, Bipartisan Policy Center*, October 2013, *available at*

- Skilled immigration leads to macroeconomic benefits related to employment and wages.
    - "A one percentage point increase in the immigration share in the population increases income per person by about 6%."[108]
    - Over the long run, a 1% increase in immigration flow to a state has been associated with an up to 0.9% increase in income per worker in the state.[109]

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http://cdn.bipartisanpolicy.org/wp-content/uploads/sites/default/files/BPC_Immigration_Economic_Impact.pdf, *accessed* March 5, 2017. This study used data from the Department of Homeland Security *Yearbook of Immigration*, the U.S. Census Bureau *Annual Estimates of the Resident Population by Single Year of Age and Sex for the United States*, the U.S. Census Bureau *National Population Projections Summary Tables*, and the National Science Foundation *Science and Engineering Indicators* and *Science and Engineering Doctorates*

[108] Ortega, Francesc and Giovanni Peri, "Openness and income: The roles of trade and migration," *Journal of International Economics*, December 2013, pp. 231-251, *available at* http://giovanniperi.ucdavis.edu/uploads/5/6/8/2/56826033/ortega_peri_openness_and_income_2014.pdf, *accessed* March 5, 2017, p.247 This study uses data from the NBER-UN dataset, and the International Trade database (BACI).

[109] Peri, Giovanni, "The Effect of Immigrants on U.S. Employment and Productivity," Federal Reserve Board of San Francisco Economic Letter, 2010-26, August 30, 2010, pp. 1-5, *available at* http://www.frbsf.org/economic-research/files/el2010-26.pdf, *accessed* March 5, 2017, p.3 . This paper summarizes research by Peri (2009) and Perri and Sparber (2009).

- 1,470 economists recently signed an open letter highlighting some of the benefits of immigration to innovation and productivity:
    - "Immigration brings entrepreneurs who start new businesses that hire American workers."[110]
    - "Immigration brings young workers who help offset the large-scale retirement of baby boomers."[111]
    - "Immigration brings diverse skill sets that keep our workforce flexible, help companies grow, and increase the productivity of American workers."[112]
    - "Immigrants are far more likely to work in innovative, job-creating fields such as science, technology, engineering, and

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[110] "An Open Letter from 1,470 Economists on Immigration," New American Economy, April 2017, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/04/NAE-Economist-Letter-April-2017.pdf, *accessed* April 12, 2017.

[111] "An Open Letter from 1,470 Economists on Immigration," New American Economy, April 2017, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/04/NAE-Economist-Letter-April-2017.pdf, *accessed* April 12, 2017.

[112] "An Open Letter from 1,470 Economists on Immigration," New American Economy, April 2017, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/04/NAE-Economist-Letter-April-2017.pdf, *accessed* April 12, 2017.

math that create life-improving products and drive economic growth."[113]

IV. IMPACT OF IMMIGRANTS ON ENTREPRENEURIAL ACTIVITY

KEY TAKEAWAYS

- **The literature supports the idea that immigrants are more likely to start new businesses. The rates of immigration entrepreneurship are typically higher for high-tech sectors of the economy.**
- **As of 2015, 14.6 percent of the Fortune 500 companies have a foreign-born CEO and 15.4 percent of the Fortune 500 Companies have a foreign-born founder. These percentages rise to 19.6 percent and 22.8 percent respectively when looking at high-tech industries.**
- **Data from the Survey of Business Owners show high shares of business ownerships by immigrants, especially in sectors that involve high-tech industries, and among recently-started firms.**

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[113] "An Open Letter from 1,470 Economists on Immigration," New American Economy, April 2017, *available at* http://www.newamericaneconomy.org/wp-content/uploads/2017/04/NAE-Economist-Letter-April-2017.pdf, *accessed* April 12, 2017.

A. The Impact of Immigrants on New Business Starts by Sector

Immigrants are a vital part of new business growth and entrepreneurship, particularly among high-tech sectors such as engineering and technology.[114] This section provides an overview of the literature that examines the prevalence of entrepreneurship and ownership in immigrant populations. Along with the prevalence rates in the data, ownership and new business start rates are calculated using publicly available sources. These analyses are consistent with the literature and further suggest that immigrant ownership has likely been increasing over the past decade. Using these prevalence measures and characteristics of immigrant owned firms, an estimate of the aggregate impact of new businesses, particularly those in high-tech sectors, founded by immigrants is determined for the U.S. economy.

B. The Relationship between Entrepreneurship and Immigration Status, Particularly in High-Tech Sectors

i. Literature Review

The literature supports the idea that immigrants are more likely to start new businesses. The rates of immigration entrepreneurship are typically higher

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[114] Stangler, Dane and Jason Wiens, "The Economic Case for Welcoming Immigrant Entrepreneurs," The Kauffman Foundation, September 8, 2015, *available at* http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-economic-case-for-welcoming-immigrant-entrepreneurs, *accessed* March 7, 2017.

for high-tech sectors of the economy. There are two measures used to evaluate immigrant entrepreneurship: the share of business founders and the business formation rate.

a. Share of Business Founders

The literature supports the idea that the immigrant share of business founders is high relative to the share of immigrants in the labor force.

- "To measure business startup activity, we use panel data created by matching consecutive months of the 2007-2011 Current Population Survey (CPS). Immigrants represent 24.9 percent of all new business owners in the United States."[115]
- "The immigrant share of new entrepreneurs rises dramatically in our sample from 16.7% in 1995 to 27.1% in 2008"[116]
- "Immigrant entrepreneurs now account for 28.5 percent of all new entrepreneurs in the United States, up from just 13.3 percent in the 1997 Index. This is close to the two-decade high of 29.5 percent in the 2011 Index, reflecting the United

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[115] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017, p. 6.

[116] Kerr, Sari Pekkala and William R. Kerr, "Immigrant Entrepreneurship," National Bureau of Economic Research, July, 2016, *available at* http://www.nber.org/papers/w22385, *accessed* March 1, 2017, p. 15.

> States' increasing population of immigrants but also the much higher Rate of New Entrepreneurs among immigrants."[117]

These rates of immigrant ownership reported in the literature are higher than the share of immigrants in the labor force. The Bureau of Labor Statistics reported that foreign-born workers accounted for 16.5% of the labor force in 2014.[118]

The literature also supports the idea that the rate of entrepreneurship is even higher for high-tech businesses.

- "We obtained responses from 2,054 engineering and technology companies founded in the U.S. from 1995 to 2005. Of these companies, 25.3% reported that at least one of their key founders was an immigrant."[119]

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[117] Fairlie, Robert W., Arnobio Morelix, E.J. Reedy, and Joshua Russell, "The Kauffman Index, Startup Activity National Trends," The Kauffman Foundation, August 2016, *available at* http://www.kauffman.org/~/media/kauffman_org/microsites/kauffman_index/startup_activity_2016/kauffman_index_startup_activity_national_trends_2016.pdf, *accessed* March 9, 2017, p. 6.

[118] "Foreign-Born Workers: Labor Force Characteristics – 2014", Bureau of Labor Statistics, U.S. Department of Labor, May, 21, 2015, *available at* https://www.bls.gov/news.release/archives/forbrn_05212015.pdf, *accessed* March 10, 2017.

[119] Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereff, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper No. 23, January 4,

- "We analyzed Silicon Valley data by selecting zip codes in the following counties: Santa Clara, Alameda, San Mateo and Santa Cruz. We received responses from 126 companies that fit these criteria. Of these, 52.4% reported that their key founders were immigrants – significantly higher than the California average of 38.8%."[120]
- "What we have found thus far suggests that immigrants make a disproportionate contribution to biotechnology entrepreneurship in Massachusetts. According to the U.S. Census, foreign-born residents of Massachusetts are 14.4 percent of the total population. But we find that 25.7 percent of biotechnology firms have foreign-born founders."[121]

2007, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 3, 2017, p. 11.

[120] Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereff, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper No. 23, January 4, 2007, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 3, 2017, p. 31.

[121] Monti, Daniel J., Laurel Smith-Doerr, and James McQuaid, "Immigrant Entrepreneurs in the Massachusetts Biotechnology Industry," The Immigrant Learning Center, Inc., June, 2007, *available at* http://www.ilctr.org/wp-content/uploads/2011/08/immigrants_in_biotechnology-updated.pdf, *accessed* March 6, 2017, p. 12.

b. Business Formation Rate

The business formation rate is another metric to measure immigrant entrepreneurship. This is the percentage of people who become business owners from one month to the next. The literature shows that immigrants have a higher business formation rate than native-born individuals and that the rates have been increasing over time.

- "Immigrants continue to be almost twice as likely as the native-born to become entrepreneurs, with the Rate of New Entrepreneurs being 0.52 percent for immigrants, as opposed to 0.27 percent for the native-born."[122]
- "The business formation rate per month among immigrants is 0.51 percent; that is, of 100,000 nonbusiness-owning immigrants, 510 start a business each month. This rate of business formation is higher than the nonimmigrant rate of 0.28 percent, or 280 of 100,000 U.S.-born non-business owners per month."[123]

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[122] Fairlie, Robert W., Arnobio Morelix, E.J. Reedy, and Joshua Russell, "The Kauffman Index, Startup Activity National Trends," The Kauffman Foundation, August 2016, *available at* http://www.kauffman.org/~/media/kauffman_org/microsites/kauffman_index/startup_activity_2016/kauffman_index_startup_activity_national_trends_2016.pdf, *accessed* March 9, 2017, p. 6.

[123] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at*

- "Business formation rates are even higher among immigrants than the nonimmigrant. The business formation rate per month among immigrants is 0.62 percent (or 620 out of 100,000). This monthly rate of business formation is much higher than the non-immigrant rate of 0.28 percent (or 280 of 100,000)."[124]

See **Table IV.1** for a full set of data sources relied on in the literature and **Table IV.2** for a full summary of the business formation estimates in the literature.

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https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017, p. 67.

[124] Fairlie, Robert W., "Immigrant Entrepreneurs and Small Business Owners, and their Access to Financial Capital," U.S. Small Business Administration, Office of Advocacy, May, 2012, ***available at*** https://www.sba.gov/sites/default/files/rs396tot.pdf, *accessed* February 27, 2017, p. ii.

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Table IV.1
Summary of Data Sources

Study	Year	Author	American Community Survey	Current Population Survey	Restricted Access U.S. Census Bureau Longitudinal Data[125]	Independent Survey/ Manual Search
Immigrant Entrepreneurship[126]	2016	Kerr and Kerr			x	
The Kauffman index – Startup Activity National Trends[127]	2015	Fairlie, Morelix, et al		x		

[125] The Restricted Access Longitudinal Data include the Longitudinal Employer Household Dynamics database and the Longitudinal Business database.

[126] Kerr, Sari Pekkala and William R. Kerr, "Immigrant Entrepreneurship," National Bureau of Economic Research, July, 2016, *available at* http://www.nber.org/papers/w22385, *accessed* March 1, 2017.

[127] Fairlie, Robert W., Arnobio Morelix, E.J. Reedy, and Joshua Russell, "The Kauffman Index, Startup Activity National Trends," The Kauffman Foundation, August 2016, *available at* http://www.kauffman.org/~/media/kauffman_org/microsites/kauffman_index/startup_activity_2016/kauffman_index_startup_activity_national_trends_2016.pdf, *accessed* March 9, 2017.

Immigration and Entrepreneurship[128]	2014	Fairlie and Lofstrom	x	x
Immigrant Entrepreneurs and Small Business Owners[129]	2012	Fairlie		x
High-Tech Immigrant Entrepreneurship in the United States[130]	2009	Hart, Acs, and Tracy		x
Estimating the Contribution of Immigrant Business Owners to the Economy[131]	2008	Fairlie		x

[128] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597922, *accessed* March 1, 2017.

[129] Fairlie, Robert W., "Immigrant Entrepreneurs and Small Business Owners, and their Access to Financial Capital," U.S. Small Business Administration, Office of Advocacy, May, 2012, *available at* https://www.sba.gov/sites/default/files/rs396tot.pdf, *accessed* February 27, 2017.

[130] Hart, David M., Zoltan J. Acs, and Spencer L. Tracy, Jr., "High-tech immigrant Entrepreneurship in the United States," U.S. Small Business Association, Office of Advocacy, July, 2009, *available at* https://www.sba.gov/sites/default/files/rs349tot_0.pdf, *accessed* February 24, 2017.

[131] Fairlie, Robert W, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," U.S. Small Business Association, Office of Advocacy, November, 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* February 24, 2017.

Study	Year	Author	American Community Survey	Current Population Survey	Restricted Access U.S. Census Bureau Longitudinal Data[132]	Independent Survey/ Manual Search
Estimating the Contribution of Immigrant Business Owners to the Economy[133]	2008	Fairlie		x		
America's New Immigrant Entrepreneurs[134]	**2007**	**Wadhwa, Saxeian, et al.**				**x**
Immigrant Entrepreneurs in the Massachusetts Biotechnology	2007	Monti, Smith-Doerr, McQuai				x

[132] The Restricted Access Longitudinal Data include the Longitudinal Employer Household Dynamics database and the Longitudinal Business database.

[133] Fairlie, Robert W, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," U.S. Small Business Association, Office of Advocacy, November, 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* February 24, 2017.

[134] Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereff, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper No. 23, January 4, 2007, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 3, 2017.

Industry[135]		d				
The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness[136]	2006	Anderson and Platzer				x
Silicon Valley's New Immigrant Entrepreneurs[137]	1999	Saxeian	x			
Immigrant Entrepreneurship	2016	Kerr and Kerr	2008	The 11 states present in the Longitudinal Employer Household Dynamics database	27.1%[138]	

[135] Monti, Smith, Laurel Smith-Doerr, and James McQuaid, "Immigrant Entrepreneurs in the Massachusetts Biotechnology Industry, June 2007, *available at* http://www.issuelab.org/resource/immigrant_entrepreneurs_in_the_massachusetts_biotechnology_industry_2007, *accessed* Match 4, 2017.

[136] Anderson, Stuart and Michaela Platzer, "American Made: The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness," National Venture Capital Association, November, 2006, *available at* http://www.contentfirst.com/AmericanMade_study.pdf, *accessed* February 24, 2017.

[137] Saxeian, AnnaLee, "Silicon Valley's New Immigrant Entrepreneurs," Public Policy Institute of California, 1999, *available at* http://www.ppic.org/content/pubs/report/R_699ASR.pdf, *accessed* March 31, 2017.

			by 1992[139]			
The Kauffman Index – Startup Activity National Trends	2015	Fairlie, Morelix, et al.	2014	U.S.	28.5%[140]	
Immigration and Entrepreneur	2014	Fairlie and Lofstrom	2007-201	U.S.	24.9%[141]	Immigrants: 0.51%[142]

[139] Kerr, Sari Pekkala and William R. Kerr, "Immigrant Entrepreneurship," National Bureau of Economic Research, July, 2016, *available at* http://www.nber.org/papers/w22385, *accessed* March 1, 2017, p. 15.

[138] States include CA, CO, FL, ID, IL, LA, MD, NC, OR, WA, and WI.

[140] Fairlie, Robert W., Arnobio Morelix, E.J. Reedy, and Joshua Russell, "The Kauffman Index, Startup Activity National Trends," The Kauffman Foundation, August 2016, *available at* http://www.kauffman.org/~/media/kauffman_org/microsites/kauffman_index/startup_activity_2016/kauffman_index_startup_activity_national_trends_2016.pdf, *accessed* March 9, 2017, p. 13.

[141] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017, p. 6.

[142] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at*

ship			1			Native-born: 0.28%
Immigrant Entrepreneurs and Small Business Owners	2012	Fairlie	2010	individuals ages 20-64 who do not own a business in the first survey month.		Immigrants: 0.62%[143] Native-born: 0.28%
High-Tech Immigrant Entrepreneurship in the United States	2009	Hart, Acs, and Tracy	2002-2006	"High impact" companies in the high-tech sector	16%[144]	

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017, p. 7.

[143] Fairlie, Robert W., "Immigrant Entrepreneurs and Small Business Owners, and their Access to Financial Capital," U.S. Small Business Administration, Office of Advocacy, May, 2012, ***available at*** https://www.sba.gov/sites/default/files/rs396tot.pdf, *accessed* February 27, 2017, p. ii.

[144] Hart, David M., Zoltan J. Acs, and Spencer L. Tracy, Jr., "High-tech immigrant Entrepreneurship in the United States," U.S. Small Business Association, Office of Advocacy, July, 2009, ***available at*** https://www.sba.gov/sites/default/files/rs349tot_0.pdf, *accessed* February 24, 2017, p. 5.

Table IV.2 (continued)
Summary of Results: Immigrant Share of Business Founders and Business Formation Rates

Study	Year	Authors	Data Range	Sample	Immigrant Share of Founders	Business Formation Rate
Estimating the Contribution of Immigrant Business Owners to the Economy	2008	Fairlie	1996-2007	U.S.	16.7%[145]	Immigrants: 0.35%[146] Native-born: 0.27%

[145] Fairlie, Robert W, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," U.S. Small Business Association, Office of Advocacy, November, 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* February 24, 2017, p. 18.

[146] Fairlie, Robert W, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," U.S. Small Business Association, Office of Advocacy, November, 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* February 24, 2017, p. 19.

America's New Immigrant Entrepreneurs	2007	Wadhwa, Saxeian, et al.	1995-2005	U.S. engineering and technology companies with > $1 million in sales or > 20 employees	U.S.: 25.3%[147] Silicon Valley: 52.4%[148]
Immigrant Entrepreneurs in the Massachusetts Biotechnology Industry	2007	Monti, Smith-Doerr, McQuaid	2006	Biotechnology companies founded in New England. Excludes subsidiaries of larger companies or multi-	25.7%[149]

[147] Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereff, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper No. 23, January 4, 2007, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 3, 2017, p. 11.

[148] Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereff, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper No. 23, January 4, 2007, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=990152, *accessed* March 3, 2017, p. 31.

[149] Monti, Smith, Laurel Smith-Doerr, and James McQuaid, "Immigrant Entrepreneurs in the Massachusetts Biotechnology Industry, June 2007, *available at* http://www.issuelab.org/resource/immigrant_entrepreneurs_in_the_massachusetts_biotechnology_industry_2007, *accessed* Match 4, 2017, p. 2.

				national corporations.	
The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness	2006	Anderson and Platzer	1990-2005	U.S. venture capital-backed public companies	25%[150]
Silicon Valley's New Immigrant Entrepreneurs	1999	Saxeian	1980-1998	Percentage of technology firms started between 1980 and 1998 with Indian or Chinese immigrant CEOs	24%[151]

[150] Anderson, Stuart and Michaela Platzer, "American Made: The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness," National Venture Capital Association, November, 2006, *available at* http://www.contentfirst.com/AmericanMade_study.pdf, *accessed* February 24, 2017, p. 13.

[151] Saxeian, AnnaLee, "Silicon Valley's New Immigrant Entrepreneurs," Public Policy Institute of California, 1999, *available at* http://www.ppic.org/content/pubs/report/R_699ASR.pdf, *accessed* March 31, 2017, p. 23.

ii. Descriptive Tables from Fortune 500 Companies

The literature has focused on all types of business, but there is also a publicly available dataset that provides ownership and founder information for Fortune 500 companies in particular. Highlighted below are statistics similar to those found in the literature, as well as some potential explanations for why the figures may be different for the Fortune 500.

- As shown in **Table IV.3**, in the 2015 list of Fortune 500 firms, 14.6 percent were headed by foreign born CEOs and 15.4 percent were founded by foreign-born individuals. Of companies in the 2015 list in high-tech industries, 19.6 percent were headed by foreign-born CEOs, and 22.8 percent were founded by foreign-born individuals.
- The percentage of Fortune 500 companies with a foreign-born founder is lower than the immigrant share of entrepreneurs reported in the literature using the recent Current Population Survey data. As shown in **Table IV.2**, estimates using Census data from the past decade range from 24.9 to 28.5 percent. However, the 15.4 percent share for Fortune 500 companies with a foreign-born founder (**Table IV.3**) is consistent with the estimates using older data. For example, data from 1996

to 2007 show immigrant entrepreneurship share of 16.7 percent[152] **(Table IV.2)**.

- In 2015, Fortune 500 companies with foreign-born CEOs generated over $1.6 trillion in revenue, and those founded by foreign-born individuals generated over $1.8 trillion in revenue.[153] These values are both larger than the entire GDP of Canada in 2015.[154] Furthermore, in 2015, Fortune 500 companies with foreign-born CEOs employed over 4 million people worldwide and Fortune 500 companies founded by foreign-born individuals employed over 3.7 million people worldwide. Both of these numbers are larger than the entire population of Connecticut in 2015.[155]

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[152] Fairlie, Robert W, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," U.S. Small Business Association, Office of Advocacy, November, 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* February 24, 2017, p. 18.

[153] Fortune, "Fortune 500," *available at* http://beta.fortune.com/fortune500/2015/, *accessed* March 2, 2017.

[154] The World Bank, "Gross Domestic Product 2015," *available at* http://databank.worldbank.org/data/download/GDP.pdf, *accessed* March 17, 2017.

[155] United States Census Bureau, "Annual Estimates of Resident Population," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmkhttps://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmkInfo

Table IV.3
Percent of Foreign-Born CEOs and Founders among U.S. Fortune 500 Companies
2015

	Percent of Companies with Foreign-Born CEO	Percent of Companies with Foreign-Born Founder[2]
All Companies	14.6%	15.4%
Companies Within High-Tech Industries[1]	19.6%	22.8%

Notes:
[1] High-tech industries include: Computers and Office Equipment, Health Care: Pharmacy and Other Services, Information Technology Services, Aerospace and Defense, Computer Software, Pharmaceuticals, Semiconductors and Other Electronic Components, Network and Other Communications Equipment, Electronics and Electrical Equipment, Computer Peripherals, Medical Products and Equipment, Scientific, Photographic and Control Equipment, Chemicals, and Energy.
[2] Information on founders was sourced from Partnership for a New American Economy's "The New American Fortune 500" and supplemented with information from online research on the country of origin for founders of companies that have been added to the list since 2010.

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please.com,%20"State%20Population%20by%20Rank,%2020 15, *accessed* March 17, 2017.

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Sources:

[1] Fortune, "Fortune 500," *available at* http://beta.fortune.com/fortune500/2015/, *accessed* March 2, 2017.

[2] Partnership for a New American Economy, "The 'New American' Fortune 500," June 2011, *available at* http://www.renewoureconomy.org/sites/all/themes/pnae/img/new-american-fortune-500-june-2011.pdf, *accessed* March 2, 2017, Appendix A.

[3] Biography, "Sergey Brin Biography," November 2, 2016, *available at* http://www.biography.com/people/sergey-brin-12103333, *accessed* March 30, 2017.

[4] Biography, "Rupert Murdoch Biography," October 17, 2016, *available at* http://www.biography.com/people/rupert-murdoch-9418489, *accessed* March 30, 2017.

[5] Viterbi, Andrew, "Reflections of an Educator, Researcher, and Entrepreneur," 2016, *available at* http://www.biography.com/people/sergey-brin-12103333, *accessed* March 30, 2017.

[6] Blagg, Deborah, "Kumar Mahadeva," September 1, 2013, *available at* https://www.alumni.hbs.edu/stories/Pages/story-bulletin.aspx?num=2208, *accessed* March 30, 2017.

[7] Swartz, Jon, "SanDisk CEO Eli Harari Proves He's No Flash in the Pan," June 28, 2010 *available at* http://usatoday30.usatoday.com/money/companies/management/profile/2010-06-27-sandisk-eli-harari_N.htm, *accessed* March 30, 2017.

[8] McFadden, Robert, "Sidney Harman, Newsweek Chairman, Is Dead at 92," April 13, 2011, *available at*

http://www.nytimes.com/2011/04/14/business/media/14harman.html, *accessed* March 30, 2017.
[9] Business Insider, "Meet the Richest Tech Tycoon in 14 Major Countries around the World," July 19, 2014, *available at* http://www.businessinsider.in/small-business/tech/slidelist/38639795.cms, *accessed* March 30, 2017.

iii. Descriptive Tables from Survey of Business Owners, 2007 and 2012

Another publicly available data source cited but not used in the literature to determine foreign-born ownership rates is the Survey of Business Owners and Self-Employed Persons (SBO) conducted by the Census Bureau. This survey collects information on the characteristics of businesses and their owners. The survey defines business ownership as possessing at least 51% of a business's stock or equity, sampling 1.75 million and 2.3 million nonfarm businesses with receipts of at least $1,000 that filed Internal Revenue Service tax forms in 2012 and 2007, respectively. Respondents include firms with no paid employees, in sectors 11 through 99 according to the North American Industry Classification System (NAICS), with the exceptions of NAICS 111,112, 482, 521, 525, 813, 814, and 92. The Census Bureau does not claim the CBO data to be representative of all U.S. businesses. Data from the 2012 SBO are only provided as tabulated estimates of aggregate numbers and percentages of businesses in the United States; microdata are available only for the 2007 SBO.

It should be noted that analyses based on the SBO are not directly comparable to analyses based on

datasets such as the CPS, which is employed in multiple studies on immigrant share of business founders (*see* **Table IV.1**). Major differences include: 1) business owners who are primarily wage and salary workers are included in the SBO, but excluded from the CPS; 2) the CPS data is collected at the individual level, whereas the SBO data is collected at the business level (thus multiple businesses owned by one individual count multiple times in the SBO but only once in the CPS); and 3) only the "majority owner" with at least 51% of a business is included in the SBO, while multiple "minority owners" with smaller shares of a business are included in the CPS.[156]

In 2012, approximately 14.4% of all businesses are estimated to be owned by immigrants (**Table IV.4a**); this is slightly lower than the percentage of foreign-born business owners (15.0%) reported in 2007 (**Table IV.4b**). The discrepancy may be due to a change in the immigrant-identifying question in the

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[156] U.S. Census Bureau, "Survey of Business Owners and Self-Employed Persons (SBO): Methodology," February 9, 2016, *available at* https://www.census.gov/programs-surveys/sbo/technical-documentation/methodology.html, *accessed* March 18, 2017; U.S. Census Bureau, "Current Population Survey (CPS): Methodology," *available at* https://www.census.gov/programs-surveys/cps/technical-documentation/methodology.html, *accessed* March 30, 2017; Fairlie, Robert W. and Alicia M. Robb, "Entrepreneurship, Self-Employment and Business Data: An Introduction to Several Large, Nationally-Representative Datasets," IZA Discussion Paper Series No. 4052, *available at* http://ftp.iza.org/dp4052.pdf, *accessed* March 25, 2017, pp.8-10.

SBO: the 2007 survey identified foreign-born business owners, which included individuals born to Americans overseas and were hence U.S. citizens by birth; the question in the 2012 survey was modified to identify only business owners who were not U.S. citizens by birth. Both figures were higher than the percentage of foreign-born individuals[157] in the general US population (12.9% in 2012, 12.6% in 2007),[158] reflecting a higher share of business ownership among immigrants than those who are native-born.

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[157] U.S. Census Bureau, "About Foreign-Born Population", ***available at*** https://www.census.gov/topics/population/foreign-born/about.html, ***accessed*** March 18, 2017. "Foreign-born" refers to individuals who are not US citizens at birth, including naturalized US citizens, lawful permanent residents, temporary migrants, humanitarian migrants, and unauthorized migrants.

[158] U.S. Census Bureau, "Current Population Survey – March 2012 Detailed Tables", Characteristics of the Foreign-Born Population by Nativity and U.S. Citizenship Status Estimates Table 1.1, ***available at*** https://www.census.gov/data/tables/2012/demo/foreign-born/cps-2012.html, ***accessed*** March 18, 2017 and U.S. Census Bureau, "Current Population Survey – March 2007 Detailed Tables", Characteristics of the Foreign-Born Population by Nativity and U.S. Citizenship Status Table 1.1, ***available at*** https://www.census.gov/data/tables/2007/demo/foreign-born/cps-2007.html, ***accessed*** March 18, 2017. The percentage of foreign-born individuals is calculated as (Total population – Native-born population)/Total population using data tables based on the Annual Social and Economic Supplement of the Current Population Surveys in 2012 and 2007.

The shares of foreign-born business owners are often even higher in sectors which involve "high tech" industries (NAICS Code 33, 42, 44, 51,54),[159] at 18.0% and 16.4% for wholesale trade (42)[160], and 15.1% and 18.0% in retail trade (44-45) in 2012 and 2007, respectively (**Table IV.4a** and **Table IV.4b**). Pharmaceutical and medicine manufacturers are more broadly included in the manufacturing sector and biotech research is included in professional, scientific and technical services, thus it is harder to determine using these aggregate codes whether similar rates are apparent in these particular sub-sectors.

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[159] U.S. Census Bureau, "Census Explorer Q&A," How do you define the "tech" jobs in the People, Education and Income Edition?, *available at* https://www.census.gov/censusexplorer/, *accessed* March 18, 2007. The page provides a hyperlink to a spreadsheet showing "list of codes used" to identify "tech" companies at https://www.census.gov/censusexplorer/naics_codes_used.xls, *accessed* March 18, 2007.

[160] Computer & peripheral equip & software wholesale (421430), Other electronic parts & equipment whsle (421690), Computer and computer peripheral equipment and software merchant wholesalers (423430),Other electronic parts and equipment merchant wholesalers (423690),Computer and software stores (443120).

Table IV.4a
Survey of Business Owners 2012 – All Sectors
Percentage of Businesses with Foreign-Born Owners, by NAICS Sector

NAICS Code	NAICS Sector	Number of Businesses Reporting Owner's Nativity Status[1]	Owner Not Born a US Citizen [2][3]
Total	Total for all sectors	22,273,483	14.4%
11(part)	Agriculture, forestry, fishing and hunting(part)	209,297	4.9%
21	Mining, quarrying, and oil and gas extraction	127,558	2.3%
22	Utilities	35,076	10.8%
23	Construction	2,136,344	12.5%
31-33	Manufacturing	588,164	21.0% *
42	Wholesale trade	464,108	18.0% *
44-45	Retail trade	2,139,119	16.2% *
48-49(part)	Transportation and warehousing(part)	786,860	27.0%
51	Information	554,999	11.9% *
52(part)	Finance and insurance(part)	861,136	8.3%
53	Real estate and rental and leasing	1,212,349	20.0%
54	Professional, scientific, and technical services	3,516,696	13.0% *
55	Management of companies and enterprises	26,189	7.8%
56	Administrative and support and waste management and remediation services	1,486,386	16.4%
61	Educational services	529,971	11.5%
62	Health care and social assistance	3,716,598	10.0%
71	Arts, entertainment, and recreation	1,029,362	8.2%
72	Accommodation and food services	891,889	19.1%
81(part)	Other services (except public administration)(part)	2,791,679	17.8%
99	Industries not classified	7,142	11.8%

Notes:

[1] Numbers of businesses were estimates based on the sample of 1.75 million businesses that responded to the 2012 SBO. Approximately 0.8% all business owners did not report whether they were born US citizens. Business ownership is defined as having 51 percent or more of the stock or equity in the business.

[2] Percentages reported were calculated out of the number of businesses that reported the owner's nativity status.

[3] Asterisks indicate NAICS sectors that cover biotechnology, pharmaceutical, and high-technology firms.

Source: United States Census, "2012 Survey of Business Owners," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, *accessed* March 1, 2017.

Table IV.4b
Survey of Business Owners 2007 – All Sectors
Percentage of Businesses with Foreign-Born Owners, by NAICS Sector

NAICS code	NAICS sector	Number of businesses reporting owner's nativity status[1]	Owner was born in the U.S.[2]
Total	Total for all sectors	847,154	13.0%
11	Agriculture, Forestry, Fishing and Hunting	6,281	6.6%
21	Mining, Quarrying, and Oil and Gas Extraction	4,609	5.0%
22	Utilities	1,749	9.9%
23	Construction	99,939	13.5%
31	Manufacturing	45,328	11.4% *
42	Wholesale Trade	70,139	10.4% *
44	Retail Trade	96,501	10.0% *
48	Transportation and Warehousing	36,756	21.6%
51	Information	18,315	14.1% *
52	Finance and Insurance	91,698	8.5%
53	Real Estate and Rental and Leasing	52,468	12.6%
54	Professional, Scientific, and Technical Services	149,699	13.5% *
55	Management of Companies and Enterprises	1,963	6.5%
56	Administrative and Support and Waste Management and Remediation Services	53,759	16.4%
61	Educational Services	15,358	13.5%
62	Health Care and Social Assistance	69,865	17.6%
71	Arts, Entertainment, and Recreation	29,159	10.9%
72	Accommodation and Food Services	75,489	26.1%
81	Other Services (except Public Administration)	65,383	10.4%
99	Industry not classified	209	14.1%

Notes:
[1] Among all 2,165,680 businesses covered by the 2007 SBO, 1,503,184 (69.4%) had a majority owner, defined as an owner with 51% or more of the stock or equity in the business. The majority owner's nativity status was reported by 847,154 (56.4%) such businesses.
[2] Percentages reported were calculated out of the number of businesses which had a majority owner and reported the owner's nativity status.
[3] Asterisks indicate NAICS sectors that cover biotechnology, pharmaceutical, and high-technology firms.

Source: United States Census, "2007 Survey of Business Owners," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, *accessed* March 1, 2017.

The higher share of immigrants in business ownership is even more apparent when examining recently founded firms. In the 2007 SBO, over 20 percent of businesses started within the 5 years prior to the survey were owned by foreign-born individuals (**Table IV.5**). These rates were even higher for trade and retail start-ups where one-third and one-quarter were owned by foreign born individuals, respectively; high-tech industries are directly involved in both sectors. In addition, as high as 36.7 percent of recently founded accommodation and food services businesses were owned by foreign-born individuals.

Table IV.5
Survey of Business Owners 2007 – Companies Founded in or after 2003
Percentage of Businesses with Foreign-Born Owners, by NAICS Sector

NAICS Code	NAICS Sector	Number of Businesses Reporting Owner's Nativity Status[1]	Owner Not Born in the US [%][1]
Total	Total for all sectors	1,503,184	20.0%
11	Agriculture, Forestry, Fishing and Hunting	944	9.7%
21	Mining, Quarrying, and Oil and Gas Extraction	703	6.3%
22	Utilities	247	14.2%
23	Construction	22,971	16.9%
31	Manufacturing	9,943	18.6% *
42	Wholesale Trade	8,088	20.8% *
44	Retail Trade	19,607	25.8% *
45	Transportation and Warehousing	6,888	16.6%
51	Information	4,537	18.4% *
52	Finance and Insurance	8,883	15.1%
53	Real Estate and Rental and Leasing	18,088	16.4%
54	Professional, Scientific, and Technical Services	70,405	13.3% *
55	Management of Companies and Enterprises	135	10.7%
56	Administrative and Support and Waste Management and Remediation Services	11,536	17.8%
61	Educational Services	3,937	11.4%
62	Health Care and Social Assistance	14,961	21.9%
71	Arts, Entertainment, and Recreation	6,540	13.8%
72	Accommodation and Food Services	9,691	36.7%
81	Other Services (except Public Administration)	18,994	21.9%
99	Industry not classified	90	16.7%

Notes:
[1] Among all 1,503,184 businesses with majority owners, 932,152 (62.0%) reported the year of establishment. A total of 300,666 (32.3%) such businesses were start-ups, defined as businesses

founded within 5 years of the survey (2003 - 2007), among which 240,252 (80.0%) reported the majority owner's nativity status.
[2] Percentages reported were calculated out of the number of start-ups with a majority owner whose nativity status was reported.
[3] Asterisks indicate NAICS sectors that cover biotechnology, pharmaceutical, and high-technology firms.
Source: United States Census, "2007 Survey of Business Owners," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, *accessed* March 1, 2017.

Similarly, when examining whether the founder of a business was foreign born, the percentage goes from 12 percent for the full sample (**Table IV.6**) to 17.3 percent for start-ups (**Table IV.7**).

Table IV.6
Survey of Business Owners 2007 –
Firms Owned by Founders
Percentage of Businesses with Foreign-Born Founding-Owners, by NAICS Sector

NAICS Code	NAICS Sector	Number of Businesses Reporting Owner's Founding and Nativity Status[1]	Founding-Owner Not Born in the US [2]
[illegible]	[illegible]	[illegible]	[illegible]
11	Agriculture, Forestry, Fishing and Hunting	5,391	6.6%
21	Mining, Quarrying, and Oil and Gas Extraction	4,842	3.8%
22	Utilities	1,115	8.3%
23	Construction	99,097	10.5%
31	Manufacturing	44,824	10.8% *
42	Wholesale Trade	26,679	13.6% *
44	Retail Trade	98,791	11.9% *
48	Transportation and Warehousing	18,155	16.5%
51	Information	10,081	17.6% *
52	Finance and Insurance	46,975	9.8%
53	Real Estate and Rental and Leasing	51,357	10.3%
54	Professional, Scientific, and Technical Services	141,798	15.8% *
55	Management of Companies and Enterprises	5,082	6.1%
56	Administrative and Support and Waste Management and Remediation Services	47,744	12.2%
61	Educational Services	14,537	12.0%
62	Health Care and Social Assistance	54,868	13.0%
71	Arts, Entertainment, and Recreation	16,613	9.9%
72	Accommodation and Food Services	35,555	16.0%
81	Other Services (except Public Administration)	43,267	13.0%
99	[illegible]	[illegible]	[illegible]

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Notes:
[1] Among all 1,503,184 businesses with majority owners, 832,215 (54.8 percent) reported both the majority owner's founder and nativity statuses.
[2] Percentages reported were calculated out of the number of businesses which had a majority owner and reported both the owner's founder and nativity statuses.
[3] Asterisks indicate NAICS sectors that cover biotechnology, pharmaceutical, and high-technology firms.
Source: United States Census, "2007 Survey of Business Owners," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, *accessed* March 1, 2017.

Table IV.7
Survey of Business Owners 2007 – Companies Founded in or After 2003 by Current Owner
Percentage of Businesses with Foreign-Born Founding-Owners, by NAICS Sector

NAICS Code	NAICS Sector	Number of Businesses Reporting Owner's Founding and Nativity Statuses[1]	Founding Owner Was Born in the US (%)[2]	
Total	Total for all sectors	371,330	17.3%	
11	Agriculture, Forestry, Fishing and Hunting	925	7.6%	
21	Mining, Quarrying, and Oil and Gas Extraction	255	5.6%	
22	Utilities	246	15.0%	
23	Construction	38,780	16.0%	
31	Manufacturing	9,885	16.7%	*
42	Wholesale Trade	9,914	20.3%	*
44	Retail Trade	16,713	18.3%	*
48	Transportation and Warehousing	7,673	24.3%	
51	Information	4,542	17.4%	*
52	Finance and Insurance	7,979	13.9%	
53	Real Estate and Rental and Leasing	12,788	14.4%	
54	Professional, Scientific, and Technical Services	32,735	16.6%	*
55	Management of Companies and Enterprises	232	7.7%	
56	Administrative and Support and Waste Management and Remediation Services	15,553	25.9%	
61	Educational Services	3,645	14.5%	
62	Health Care and Social Assistance	19,678	26.1%	
71	Arts, Entertainment, and Recreation	4,489	11.4%	
72	Accommodation and Food Services	5,535	21.2%	
81	Other Services (except Public Administration)	13,304	17.7%	
99	Industries not classified	85	17.6%	

Notes:
[1] Among all 1,503,184 businesses with majority owners, 932,152 (62.0 percent) reported the year of establishment. A total of 300,666 (32.3 percent) such businesses were start-ups, defined as businesses founded within 5 years of the survey (2003 - 2007), among which 173,136 (57.6 percent) reported both the majority owner's founder and nativity statuses.

[2] Percentages reported were calculated out of the number of start-ups which had a majority owner and reported both the owner's founder and nativity statuses.
[3] Asterisks indicate NAICS sectors that cover biotechnology, pharmaceutical, and high-technology firms.

Source: United States Census, "2007 Survey of Business Owners," *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk, *accessed* March 1, 2017.

C. Impact of New Businesses Started by Immigrants

i. Estimates of Sales, Employment, and Payroll Generated by Immigrant-Owned Firms in 2012

Table IV.8 reports estimates of the impact of immigrant owned firms in the U.S. economy in 2012. The estimates are calculated as the product of the

total value for the U.S.[161] and the immigrant owned business share.[162] For example,

Total sales generated by immigrant owned firms = total U.S. sales × percent of sales generated by immigrant owned firms

Assumptions:

- Fairlie and Loftstrom (2014) report the shares of total U.S. sales, employment, and payroll for immigrant owned firms using 2007 Survey of Business Owners data.[163] Given the limitations of the 2012 Survey of Business Owner data, these same estimates cannot be calculated for 2012. Therefore, the following calculations assume that the immigrant owned firms' shares were the same in 2012 as they were in 2007.

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[161] Total U.S. sales, employment, and payroll are from the 2012 Survey of Business Owners *available at* https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF, *accessed* March 1, 2017.

[162] The immigrant owned businesses' shares of sales employment, and payroll are taken from Fairlie and Loftstrom (2014), which used 2007 Survey of Business Owner data. Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017.

[163] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017.

- Fairlie and Loftstrom's estimates of employment, payroll, and sales use data limited to, "businesses that are classified by the IRS as sole proprietorships, partnerships, 1120 corporations, or employers, and that have sales of $1000 or more. It also excludes publicly held and other firms not classifiable by owner status."[164] The following calculations extend the analysis to all U.S. firms reported in the Survey of Business Owners. The analysis assumes that the shares are the same for Fairlie and Loftstrom's sample of businesses as for the whole population of U.S. businesses.

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[164] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship." CESifo Working Paper Series No. 5298, April 23, 2015. *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* March 1, 2017, p. 8.

Table IV.8
Estimated Impact of Immigrant Owned Businesses on the U.S. Economy in 2012

	Measure of 2012 Economic Impact		
Metric	Sales, Receipts, or Value of Shipments (Millions)	Employment	Payroll (Millions)
Total U.S.	$33,536,848.8	115,249,007	$5,236,446.1
Immigrant Owned Business Share in 2007	10.0%	9.9%	8.8%
Estimate for Immigrant Owned Businesses	$3,353,684.8	11,409,652	$460,807.3

Sources:
[1] 2012 Survey of Business Owners.
[2] Fairlie, Robert W. and Magnus Lofstrom, "Immigration and Entrepreneurship," CESifo Working Paper Series No. 5298, April 23, 2015, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2597992, *accessed* April 14, 2017.

ii. Regional Differences

Immigrant owned firms' contributions to the economy are even higher in some regions of the country. Using data from the 2000 Census, Fairlie (2008) showed that, "The total business income generated by immigrant business owners is $67 billion, 11.6 percent of all business income in the United States. Immigrant business owners generate nearly $20 billion or one-quarter of all business income

in California, and nearly one-fifth of all business income in New York, Florida, and New Jersey."[165]

V. REGIONAL IMPACT AND ECONOMIC GROWTH

KEY TAKEAWAYS

- **While immigration policy may be set at the national level, its importance is not distributed equally across the United States.**
- **In terms of number of foreign-born individuals with graduate degrees, the top five states are California, New York, Texas, Illinois, and Pennsylvania. However, the states with the highest percentage of individuals with graduate degrees are Connecticut, Texas, Illinois, Oklahoma, and Kansas.**
- **States such as California, New York, Texas, Florida, and Illinois have the largest number of immigrants and immigrants from the six banned countries. States with the lowest number of immigrants are typically in the upper-plains and Appalachia regions of the United States.**
- **States with relatively small immigrant populations – West Virginia, North Dakota, South Dakota, Alaska, and Montana – have**

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[165] Fairlie, Robert, "Estimating the Contribution of Immigrant Business Owners to the U.S. Economy," Small Business Office of Advocacy, November 2008, *available at* https://people.ucsc.edu/~rfairlie/papers/published/sba%20final%20report%20immigrant%20business.pdf, *accessed* April 14, 2017.

experienced the largest percentage increases in the share of immigrants in their population and labor force.

- Examination of labor certification and residence applications across states also reveals spatial differences.
    - In 2016, the District of Columbia, New Jersey, Delaware, Connecticut, and Massachusetts had the most applications for skilled employment visas per 1,000 persons.
    - New Jersey, Washington, California, the District of Columbia, and Delaware had the most applications for permanent residence applications per 1,000 persons in 2016.
    - The most applications for temporary agricultural work permits are made in California, Florida, Georgia, Louisiana, North Carolina, and Washington.
    - The most applications for temporary non-agricultural work permits are made in Colorado, Florida, Louisiana, Massachusetts, Pennsylvania, and Texas.
- Finally, there are state-level differences in the fiscal effects of immigrants. Between 2011 and 2013, Alaska, the District of Columbia, Wyoming, New York, and California had the highest state and local expenditures per immigrant independent person.

A. State-by-State Facts from the American Immigration Council

Table V.1 presents data for each state on the percentage of the population that is foreign-born in 2013, the percentage of businesses owned by foreign-born individuals in 2010, and net business income from immigrant businesses in 2010. Tables V.2 to V.4 present data on each of these measures, respectively, by state ranking.

- California, New York, New Jersey, Florida, and Nevada were the states with the highest percentage of foreign-born individuals in 2013.
- In 2010, the states with the highest percent of businesses owned by foreign-born individuals were California, New York, New Jersey, Florida, and Hawaii.
- The net business income from foreign-born-owned businesses is highest in California by a substantial margin, followed by Florida, Texas, New Jersey, and Illinois.

Table V.1
State-by-State Facts from American Immigration Council

Rank	State	Percent foreign-born[1]	Percent business owners that are foreign-born[2]	Net business income from immigrant business[3]
1	Alabama	3.4%	4.3%	$337,000,000
2	Alaska	7.1%	9.8%	$160,000,000
3	Arizona	13.5%	14.8%	$2,200,000,000
4	Arkansas	4.5%	4.2%	$287,000,000
5	California	26.9%	36.6%	$34,300,000,000
6	Colorado	9.5%	9.2%	$1,200,000,000
7	Connecticut	13.9%	16.0%	$2,100,000,000
8	Delaware	8.3%	10.6%	$267,000,000
9	District of Columbia	14.4%	18.7%	$242,000,000
10	Florida	19.4%	28.1%	$13,500,000,000
11	Georgia	9.7%	14.8%	$2,900,000,000
12	Hawaii	17.6%	22.5%	$772,000,000
13	Idaho	5.9%	5.3%	$192,000,000
14	Illinois	14.0%	21.6%	$5,400,000,000
15	Indiana	4.8%	5.1%	$722,000,000
16	Iowa	4.9%	7.9%	$216,000,000
17	Kansas	6.8%	5.3%	$351,000,000
18	Kentucky	3.4%	4.4%	$451,000,000
19	Louisiana	3.9%	7.6%	$691,000,000
20	Maine	3.4%	8.2%	$128,000,000
21	Maryland	14.2%	20.9%	$2,800,000,000
22	Massachusetts	15.6%	17.9%	$2,800,000,000
23	Michigan	6.2%	10.4%	$1,800,000,000
24	Minnesota	7.6%	6.0%	$772,000,000
25	Mississippi	2.1%	4.5%	$181,000,000
26	Missouri	3.9%	5.8%	$650,000,000
27	Montana	2.0%	1.7%	$44,000,000
28	Nebraska	6.6%	3.6%	$326,000,000
29	Nevada	19.0%	20.2%	$1,100,000,000
30	New Hampshire	5.7%	7.7%	$252,000,000
31	New Jersey	21.6%	28.0%	$6,200,000,000
32	New Mexico	10.1%	8.4%	$389,000,000
33	New York	22.3%	29.4%	$20,000,000
34	North Carolina	7.8%	8.4%	$1,700,000,000
35	North Dakota	2.7%	1.8%	$20,600,000
36	Ohio	4.1%	6.7%	$1,300,000,000
37	Oklahoma	5.7%	5.6%	$447,000,000
38	Oregon	10.0%	9.2%	$1,100,000,000
39	Pennsylvania	6.2%	9.1%	$2,200,000,000
40	Rhode Island	12.9%	12.9%	$380,000,000
41	South Carolina	4.8%	6.0%	$522,000,000
42	South Dakota	2.8%	2.3%	$33,000,000
43	Tennessee	4.7%	7.2%	$851,000,000
44	Texas	16.5%	20.3%	$10,000,000,000
45	Utah	8.2%	6.9%	$388,000,000
46	Vermont	4.2%	4.2%	$65,000,000
47	Virginia	14.5%	17.1%	$3,000,000,000
48	Washington	13.5%	15.0%	$2,400,000,000
49	West Virginia	1.5%	4.0%	$199,000,000
50	Wisconsin	4.8%	4.7%	$589,000,000
51	Wyoming	3.5%	2.9%	$59,600,000

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Notes:
[1] These figures are reported by the U.S. Census Bureau for the year 2013.
[2] These figures are reported by the Fiscal Policy Institute and Americas Society/Council of the Americas for the year 2010.
[3] These figures represent total net business income of new immigrant business owners according to Robert Fairlie of the University of California, Santa Cruz for the year 2010.

Source: American Immigration Council, State Fact Sheets, ***available at*** https://www.americanimmigrationcouncil.org/topics/state-by-state, *accessed* April 12, 2017.

Table V.2
States by Percent Foreign-Born

Rank	State	Percent foreign-born
1	California	26.9%
2	New York	22.3%
3	New Jersey	21.6%
4	Florida	19.4%
5	Nevada	19.0%
6	Hawaii	17.6%
7	Texas	16.5%
8	Massachusetts	15.6%
9	Virginia	14.5%
10	District of Columbia	14.4%
11	Maryland	14.2%
12	Illinois	14.0%
13	Connecticut	13.9%
14	Arizona	13.5%
15	Washington	13.5%
16	Rhode Island	12.9%
17	New Mexico	10.1%
18	Oregon	10.0%
19	Georgia	9.7%
20	Colorado	9.5%
21	Delaware	8.9%
22	Utah	8.2%
23	North Carolina	7.8%
24	Minnesota	7.4%
25	Alaska	7.1%
26	Kansas	6.8%
27	Nebraska	6.6%
28	Pennsylvania	6.2%
29	Michigan	6.2%
30	Idaho	5.9%
31	New Hampshire	5.7%
32	Oklahoma	5.7%
33	Indiana	4.8%
34	Iowa	4.8%
35	South Carolina	4.8%
36	Wisconsin	4.8%
37	Tennessee	4.7%
38	Arkansas	4.5%
39	Vermont	4.2%
40	Ohio	4.1%
41	Louisiana	3.9%
42	Missouri	3.9%
43	Wyoming	3.5%
44	Alabama	3.4%
45	Kentucky	3.4%
46	Maine	3.4%
47	South Dakota	2.8%
48	North Dakota	2.7%
49	Mississippi	2.1%
50	Montana	2.0%
51	West Virginia	1.5%

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Note: These figures are reported by the U.S. Census Bureau for the year 2013.

Source: American Immigration Council, State Fact Sheets, ***available at*** https://www.americanimmigrationcouncil.org/topics/state-by-state, *accessed* April 12, 2017.

Table V.3
States by Percent of Foreign-Born Business Owners

Rank	State	Percent of business owners that are foreign-born
1	California	36.6%
2	New York	26.4%
3	New Jersey	28.0%
4	Florida	26.3%
5	Hawaii	22.5%
6	Illinois	21.8%
7	Maryland	20.9%
8	Texas	20.3%
9	Nevada	20.2%
10	District of Columbia	18.2%
11	Massachusetts	17.9%
12	Virginia	17.1%
13	Connecticut	16.0%
14	Washington	15.0%
15	Arizona	14.8%
16	Georgia	14.6%
17	Rhode Island	12.9%
18	Delaware	10.6%
19	Michigan	10.4%
20	Alaska	9.8%
21	Colorado	9.2%
22	Oregon	9.2%
23	Pennsylvania	9.1%
24	North Carolina	8.6%
25	New Mexico	8.4%
26	New Hampshire	7.2%
27	Louisiana	7.6%
28	Tennessee	7.2%
29	Utah	6.9%
30	Ohio	6.7%
31	Minnesota	6.0%
32	South Carolina	6.0%
33	Missouri	5.8%
34	Oklahoma	5.6%
35	Idaho	5.3%
36	Kansas	5.3%
37	Indiana	5.1%
38	Wisconsin	4.7%
39	Kentucky	4.6%
40	Mississippi	4.5%
41	Alabama	4.3%
42	Arkansas	4.2%
43	Vermont	4.2%
44	West Virginia	4.0%
45	Nebraska	3.6%
46	Maine	3.2%
47	Iowa	2.9%
48	Wyoming	2.8%
49	North Dakota	1.8%
50	Montana	1.7%
51	South Dakota	1.1%

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Note: These figures are reported by the Fiscal Policy Institute and Americas Society/Council of the Americas for the year 2010.

Source: American Immigration Council, State Fact Sheets, ***available at*** https://www.americanimmigrationcouncil.org/topics/state-by-state, *accessed* April 12, 2017.

Table V.4
States by Income from Immigrant Businesses

Rank	State	Net business income from immigrant businesses
1	California	$34,300,000,000
2	Florida	$13,300,000,000
3	Texas	$10,000,000,000
4	New Jersey	$6,200,000,000
5	Illinois	$5,400,000,000
6	Virginia	$3,000,000,000
7	Georgia	$2,900,000,000
8	Maryland	$2,800,000,000
9	Massachusetts	$2,800,000,000
10	Washington	$2,400,000,000
11	Arizona	$2,200,000,000
12	Pennsylvania	$2,200,000,000
13	Connecticut	$2,100,000,000
14	Michigan	$1,800,000,000
15	North Carolina	$1,700,000,000
16	Ohio	$1,300,000,000
17	Colorado	$1,200,000,000
18	Nevada	$1,100,000,000
19	Oregon	$1,100,000,000
20	Tennessee	$851,000,000
21	Hawaii	$772,000,000
22	Minnesota	$772,000,000
23	Indiana	$722,000,000
24	Louisiana	$691,000,000
25	Missouri	$650,000,000
26	Wisconsin	$589,000,000
27	South Carolina	$522,000,000
28	Kentucky	$451,000,000
29	Oklahoma	$447,000,000
30	New Mexico	$389,000,000
31	Utah	$388,000,000
32	Rhode Island	$340,000,000
33	Kansas	$351,000,000
34	Alabama	$337,000,000
35	Arkansas	$287,000,000
36	Delaware	$261,000,000
37	New Hampshire	$252,000,000
38	District of Columbia	$242,000,000
39	Iowa	$216,000,000
40	Idaho	$192,000,000
41	Mississippi	$181,000,000
42	Alaska	$160,000,000
43	West Virginia	$139,000,000
44	Nebraska	$136,000,000
45	Maine	$120,000,000
46	Vermont	$84,000,000
47	Wyoming	$59,600,000
48	Montana	$44,000,000
49	New York	$20,600,000
50	North Dakota	$20,600,000
51	South Dakota	$13,000,000

Note: These figures represent total net business income of new immigrant business owners according to Robert Fairlie of the University of California, Santa Cruz for the year 2010.

Source: American Immigration Council, State Fact Sheets, *available at* https://www.americanimmigrationcouncil.org/topics/state-by-state, *accessed* April 12, 2017.

B. STEM Post-Baccalaureate Degrees by State and Student U.S. Residency Status

Table V.5 reports statistics from the U.S. Department of Education, National Center for Education Statistics on STEM post-baccalaureate degrees awarded by each state in 2009 by nationality.

- The states with the highest percentage of individuals with graduate degrees are Connecticut, Texas, Illinois, Oklahoma, and Kansas.
- The states with the highest percentage of foreign-born individuals with graduate degrees are California, New York, Texas, Illinois, and Pennsylvania.

Table V.5
STEM Post-Baccalaureate Degrees by State and Student U.S. Residency Status

Source: U.S. Department of Education, "Integrated Post-Secondary Education Data System (IPEDS)," 2009 (compiled July 26, 2012). Taken from the following report: U.S. Chamber of Commerce, Information Technology Industry Council, Partnership for a New American Economy, "Help Wanted: The Role of Foreign Workers in the Innovation Economy," *available at* https://www.itic.org/dotAsset/31303e8c-d2be-47ca-a3db-f41649bcbb02.pdf, *accessed* April 4, 2017.

C. H-1B Visa and Green Card Applications by State

Table V.6 reports data on applications for skilled employment (e.g., H-1B Visas), and **Table V.7** reports data on applications for permanent residence (i.e., Green Cards). Applications for H-1B visas and Green Cards can proxy for foreign-born individuals' intent to immigrate to a specific state.

- **Skilled Employment:**
  - **Table V.6** shows that the highest percentage growth in H-1B Visa applications occurred in Montana, followed by Pennsylvania, South Carolina, Georgia, and Vermont.
  - None of these states appeared among the top five states for the metrics presented in **Tables V.1** to **V.5** above.
  - New York, California, and Massachusetts are not included among the top ten states for H-1B Visa applications.
  - In 2016, the District of Columbia, New Jersey, Delaware, Connecticut, and Massachusetts had the most applications for skilled employment visas per 1,000 persons.
- **Permanent Residence:**
  - **Table V.7** shows that the highest percentage increases in employment-based Green Card applications occurred in Washington, South Carolina, Texas, Oregon, and North Carolina.

- With the exception of Texas, these states are not among the top five states based on the metrics presented in **Tables V.1** to **V.5** above.
- New Jersey, Washington, California, the District of Columbia, and Delaware had the most applications for permanent residence applications per 1,000 persons in 2016.

Table V.6
Labor Condition Applications for Skilled Employment Visas (H-1B, H-1B1, E-3) by State Fiscal Years 2010-2016

State	Applications per 1000 People								Increase/Decrease 2010-16	
	2010	2011	2012	2013	2014	2015	2016	Rank (2016)	2016/2010	Rank
DC	9.01	9.99	8.57	8.57	9.90	9.11	10.55	1	2.7%	45
NJ	6.45	5.79	6.66	6.89	7.70	10.89	9.36	2	39.3%	34
DE	5.66	5.03	5.88	6.53	5.86	8.70	7.34	3	12.3%	39
CT	5.98	4.71	6.36	6.88	5.07	7.15	6.58	4	9.3%	46
MA	3.35	4.25	4.88	4.99	5.43	7.21	6.56	5	13.0%	38
PA	3.19	3.19	3.60	3.68	3.99	5.19	6.22	6	27.0%	7
WA	2.85	3.30	4.12	4.17	4.97	6.44	6.16	7	15.7%	15
CA	2.98	3.29	4.16	4.44	4.84	5.48	5.84	8	13.8%	31
IL	3.48	3.30	3.86	3.88	4.24	5.51	5.74	9	15.0%	9
NY	3.28	3.48	4.48	3.97	4.44	5.28	5.54	10	9.5%	43
GA	1.54	2.25	2.98	2.96	3.67	4.53	4.46	11	19.1%	4
TX	2.85	2.40	2.86	2.88	3.40	4.17	4.31	12	15.4%	7
VA	2.18	2.44	2.85	3.25	3.37	4.18	4.31	13	12.3%	22
RI	1.96	2.49	3.42	3.75	4.24	4.58	4.05	14	10.6%	28
NE	1.43	1.92	2.16	2.28	2.65	3.13	3.53	15	16.3%	6
NC	1.49	2.13	2.97	2.83	2.89	3.54	3.61	16	19.3%	8
MN	1.89	2.98	3.40	3.58	3.56	4.15	3.49	17	10.7%	27
FL	2.64	2.09	2.20	2.46	2.55	3.48	3.34	18	3.0%	44
KY	1.70	1.60	2.95	2.58	2.38	3.13	3.06	19	10.4%	30
OH	1.62	2.16	2.69	2.69	2.67	2.98	3.01	20	10.6%	26
MD	2.14	2.09	2.48	2.06	2.72	3.07	2.75	21	4.3%	40
CO	2.52	2.02	2.89	2.60	2.46	3.08	2.65	22	8.2%	32
OR	1.29	2.40	2.38	2.57	2.05	2.47	2.56	23	12.2%	23
AZ	2.03	1.97	1.85	1.87	2.13	2.67	2.57	24	11.3%	24
IL	1.17	1.48	1.56	1.41	1.98	2.06	2.29	25	21.9%	2
NJ	1.08	1.88	2.27	1.98	1.78	2.02	2.18	26	15.3%	13
MO	1.92	1.64	1.97	1.83	1.91	2.20	2.27	27	9.4%	35
UT	0.98	1.04	1.25	1.13	1.45	1.88	2.13	28	19.0%	12
MI	1.13	1.47	1.62	1.09	1.48	2.45	2.12	29	11.4%	23
TN	0.89	1.48	1.88	1.84	2.13	2.60	1.89	30	12.3%	18
IA	1.14	1.34	1.77	1.84	2.60	2.01	1.84	31	8.1%	40
ID	0.97	1.09	1.69	1.13	1.99	2.80	1.82	32	12.3%	20
KS	1.13	1.47	1.88	1.62	1.52	1.81	1.50	33	5.3%	41
SD	0.85	0.95	1.16	0.98	1.26	1.76	1.46	34	9.9%	34
VT	0.57	1.45	0.74	0.98	1.08	1.00	1.41	35	16.3%	9
AL	0.65	0.83	1.05	0.86	1.13	1.15	1.01	36	24.6%	3
NV	0.67	0.72	0.98	0.86	0.84	0.98	1.16	37	8.4%	36
HI	0.63	1.02	0.88	1.09	1.08	1.57	1.12	38	10.2%	31
OK	0.58	0.66	0.59	0.86	0.87	0.94	1.01	39	12.6%	17
ME	0.82	1.02	0.86	1.17	1.21	0.88	1.05	40	1.8%	42
MT	0.16	0.22	0.79	0.78	0.77	0.43	0.86	41	12.2%	1
SC	0.13	0.08	0.43	0.21	0.38	0.88	0.82	42	5.2%	37
NM	0.79	0.53	1.31	0.68	0.70	0.80	0.80	43	0.2%	45
ID	0.78	0.78	0.88	0.86	0.65	0.89	0.80	44	2.8%	47
WY	0.35	0.48	0.43	0.43	0.75	0.57	0.77	45	14.8%	10
HI	0.78	0.57	0.88	0.97	0.91	0.85	0.64	46	-1.6%	51
LA	0.58	0.46	0.65	0.47	0.59	0.84	0.64	47	1.3%	48
AK	0.48	0.51	0.47	0.42	0.58	0.56	0.57	48	5.3%	42
MS	0.32	0.33	0.32	0.27	0.33	0.35	0.55	49	9.2%	33
AK	0.55	0.52	0.48	0.49	0.50	0.58	0.55	50	0.8%	50
WV	0.24	0.26	0.46	0.22	0.34	0.37	0.39	51	5.6%	38
PR	0.15	0.10	0.23	0.09	0.10	0.14	0.27	52	10.5%	29
U.S. Total	1.68	2.35	2.86	2.84	3.17	3.80	3.82		13.8%	

Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

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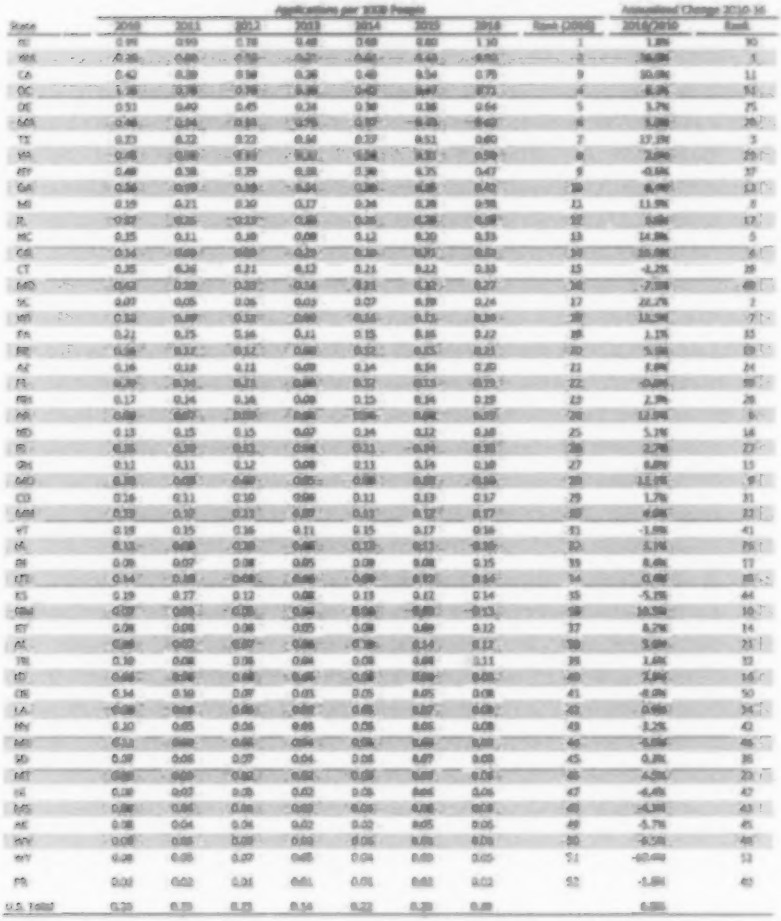
Sources:

[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.

[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Table V.7
Labor Certification Applications for Permanent Residence Applications by State
Fiscal Years 2010-2016



State	Applications per 1000 People							Rank (2010)	Accumulated Change 2010-16	
	2010	2011	2012	2013	2014	2015	2016		2016/2010	Rank
DC	0.99	0.99	0.78	0.48	0.68	0.86	1.10	1	1.8%	30
WA	0.46	0.48	0.50	0.51	0.61	0.68	0.80	2	36.0%	5
CA	0.42	0.39	0.39	0.36	0.40	0.54	0.75	9	10.0%	11
OC	1.35	0.78	0.78	0.36	0.42	0.47	0.71	4	6.3%	34
DE	0.51	0.49	0.45	0.34	0.38	0.56	0.64	5	5.7%	35
MA	0.46	0.34	0.33	0.25	0.37	0.35	0.62	6	5.2%	36
TX	0.23	0.22	0.22	0.16	0.27	0.51	0.60	7	17.3%	9
VA	0.45	0.38	0.37	0.30	0.34	0.33	0.59	8	2.6%	37
NY	0.49	0.38	0.29	0.28	0.30	0.35	0.47	3	-0.5%	37
GA	0.36	0.19	0.19	0.14	0.26	0.38	0.42	10	6.4%	33
MD	0.19	0.21	0.19	0.17	0.24	0.28	0.38	11	11.9%	8
IL	0.27	0.25	0.19	0.16	0.25	0.28	0.38	12	5.6%	32
NC	0.15	0.11	0.10	0.08	0.12	0.20	0.33	13	14.8%	6
CO	0.14	0.09	0.09	0.09	0.16	0.21	0.32	14	15.0%	4
CT	0.15	0.16	0.11	0.12	0.21	0.22	0.33	15	-1.2%	29
MO	0.07	0.09	0.09	0.14	0.21	0.32	0.27	16	7.5%	28
NJ	0.07	0.05	0.05	0.03	0.07	0.19	0.24	17	22.7%	2
MN	0.12	0.09	0.10	0.08	0.14	0.21	0.24	18	13.3%	7
PA	0.21	0.15	0.16	0.11	0.15	0.16	0.22	19	1.1%	31
RI	0.16	0.12	0.12	0.08	0.12	0.15	0.21	20	5.1%	33
AZ	0.16	0.10	0.11	0.09	0.14	0.14	0.20	21	8.0%	24
FL	0.20	0.14	0.11	0.08	0.12	0.13	0.19	22	-0.0%	30
NH	0.17	0.14	0.16	0.09	0.15	0.14	0.19	23	2.3%	26
AK	0.09	0.07	0.09	0.08	0.06	0.08	0.17	24	12.5%	9
ND	0.13	0.15	0.15	0.07	0.14	0.12	0.16	25	5.1%	34
ID	0.15	0.10	0.11	0.08	0.11	0.14	0.15	26	2.7%	27
OH	0.11	0.11	0.12	0.08	0.11	0.14	0.14	27	6.8%	15
MO	0.10	0.03	0.09	0.05	0.08	0.08	0.14	28	11.1%	9
CO	0.16	0.11	0.10	0.08	0.11	0.13	0.13	29	1.7%	31
MM	0.10	0.10	0.11	0.07	0.11	0.12	0.13	30	4.0%	23
VT	0.19	0.15	0.16	0.11	0.15	0.17	0.16	31	-1.9%	41
HI	0.13	0.09	0.10	0.08	0.13	0.11	0.15	32	5.1%	29
DE	0.09	0.07	0.08	0.05	0.09	0.08	0.15	33	8.6%	17
CT	0.14	0.10	0.08	0.06	0.09	0.10	0.14	34	0.0%	28
KS	0.10	0.07	0.12	0.08	0.10	0.12	0.14	35	-5.1%	44
OH	0.07	0.05	0.05	0.04	0.06	0.09	0.13	36	10.5%	10
KY	0.08	0.08	0.08	0.05	0.08	0.09	0.12	37	8.2%	14
AL	0.06	0.02	0.07	0.06	0.08	0.14	0.12	38	5.0%	21
TN	0.10	0.08	0.08	0.04	0.08	0.08	0.11	39	1.6%	32
ID	0.06	0.06	0.08	0.05	0.08	0.09	0.08	40	2.9%	25
OR	0.14	0.10	0.07	0.05	0.05	0.05	0.08	41	-0.0%	30
LA	0.08	0.06	0.06	0.07	0.05	0.07	0.08	42	0.0%	26
NV	0.10	0.05	0.06	0.05	0.06	0.06	0.08	43	3.2%	43
MS	0.11	0.09	0.08	0.04	0.06	0.09	0.08	44	-0.0%	46
SD	0.07	0.06	0.07	0.04	0.06	0.07	0.08	45	0.8%	35
MT	0.08	0.09	0.09	0.02	0.05	0.07	0.08	46	-6.0%	23
HI	0.08	0.07	0.05	0.02	0.05	0.06	0.06	47	-6.4%	47
WS	0.08	0.06	0.06	0.03	0.05	0.06	0.06	48	-4.3%	43
AK	0.08	0.04	0.06	0.02	0.02	0.05	0.05	49	-5.7%	45
WY	0.05	0.03	0.03	0.03	0.05	0.05	0.04	50	-0.5%	48
WY	0.08	0.05	0.07	0.05	0.04	0.03	0.05	51	-40.4%	51
PR	0.01	0.02	0.01	0.01	0.01	0.01	0.02	52	-1.8%	40
U.S. Total	0.20	0.19	0.19	0.14	0.22	0.29	0.39		0.8%	

Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

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Sources:
[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.
[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

D. Numbers and Fraction of Immigrant Populations by U.S. State, 2010-2015

The following table and maps present statistics for each state on the number of immigrants, the number of immigrants from the six banned countries, immigrants' fraction of the population, immigrants' fraction of the labor force, and the fraction of all immigrants from the six banned countries. In general, states such as California, New York, Texas, Florida, and Illinois have the largest number of immigrants and immigrants from the six banned countries. States with the lowest number of immigrants are typically in the upper-plains and Appalachia regions of the U.S.

Below, we summarize our findings on the states that have the highest and the lowest values of the each of aforementioned statistics over the 2010 to 2015 time period. We also present data on the Massachusetts. **Figures V.1** to **V.5** present these statistics for 2010-2015 spatially on a map of the United States.

- **All Immigrants:**
    - Largest: California, New York, and Texas are the top 3 in terms of immigrant population.

- Smallest: The bottom 3 are North Dakota, Montana, and Wyoming. In general, the upper-plains, parts of Appalachia, and parts of New England are towards the bottom.
- Massachusetts: 1,046,391

- **Immigrants from Six Banned Countries:**
  - Largest: California has the largest number of immigrants from the 6 countries, by a large margin.
  - Smallest: Montana has no immigrants from the 6 countries.
  - Massachusetts: 11,350
- **Immigrants' Fraction of the Population:**
  - Largest: California, New York, and New Jersey are top the list.
  - Smallest: Parts of the upper-plains, the Midwest, and parts of Appalachia are towards the bottom.
  - Massachusetts: 15.6%
- **Immigrants' Fraction of the Labor Force:**
  - Largest: California, New York, and New Jersey top the list. Florida and Nevada are also high on this list.
  - Smallest: West Virginia, Montana, and Mississippi comprise the bottom three.
  - Massachusetts: 18.0%

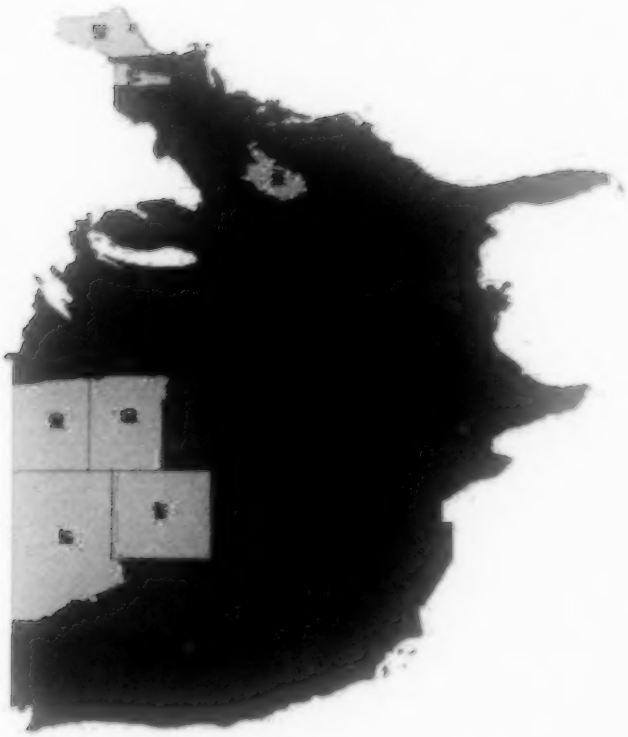
- **Fraction of Six Banned Countries Relative to All Immigrants:**
    - Largest: The upper-plains and the rust belt essentially have the highest percentage of immigrants from the 6 countries. Minnesota, West Virginia, Maine, South Dakota, and North Dakota make up the top 5.
    - Smallest: New Mexico, Florida, and Hawaii are the bottom three.
    - Massachusetts: 1.1%

Table V.8
Numbers and Fractions of Immigrants, 2010-2015

State	All Immigrants	Immigrants From 6 Biased Countries	Immigrants' Fraction of the Population	Immigrants' Fraction of the Labor Force	Fraction of 6 Biased Countries Relative to All Immigrants
Alabama	154,207	1,484	3.4%	4.2%	0.9%
Alaska	22,647	487	7.2%	9.8%	0.5%
Arizona	899,711	10,442	13.5%	15.2%	1.2%
Arkansas	148,546	1,885	4.7%	6.1%	0.6%
California	10,446,388	262,750	27.3%	34.2%	2.5%
Colorado	527,665	7,590	9.6%	13.4%	1.4%
Connecticut	696,981	1,654	18.8%	16.4%	0.2%
Delaware	91,135	489	9.8%	10.7%	0.5%
District of Columbia	92,549	1,857	14.3%	17.0%	1.7%
Florida	5,085,058	65,980	19.8%	23.9%	0.9%
Georgia	983,834	12,673	9.8%	12.6%	1.3%
Hawaii	247,658	503	17.6%	20.5%	0.2%
Idaho	96,717	531	6.0%	7.3%	0.5%
Illinois	1,966,040	17,556	14.6%	17.1%	1.0%
Indiana	336,978	2,516	4.8%	5.9%	0.7%
Iowa	148,669	3,010	4.7%	5.9%	2.1%
Kansas	201,759	1,993	7.0%	8.4%	1.0%
Kentucky	199,669	8,949	4.6%	6.2%	4.5%
Louisiana	188,622	2,899	3.9%	5.1%	1.5%
Maine	48,358	2,072	3.6%	3.5%	4.3%
Maryland	866,543	14,488	14.4%	17.9%	1.7%
Massachusetts	1,046,378	12,889	15.6%	16.9%	1.2%
Michigan	649,928	23,522	6.4%	7.2%	3.7%
Minnesota	448,898	38,984	7.7%	9.0%	8.7%
Mississippi	67,186	895	2.3%	2.9%	1.4%
Missouri	246,980	4,502	3.9%	4.7%	1.9%
Montana	35,384	-	2.0%	2.0%	-
Nebraska	136,990	8,390	6.9%	9.2%	3.9%
Nevada	577,207	4,681	15.2%	14.9%	0.8%
New Hampshire	91,077	995	5.8%	6.2%	1.9%
New Jersey	1,926,477	14,459	21.6%	26.9%	0.7%
New Mexico	203,470	987	10.3%	12.0%	0.5%
New York	4,445,174	46,354	22.6%	30.7%	1.0%
North Carolina	748,840	8,448	7.9%	9.8%	1.1%
North Dakota	22,589	877	3.1%	5.0%	4.0%
Ohio	472,784	16,694	4.1%	4.7%	3.5%
Oklahoma	230,892	2,565	5.7%	7.3%	1.2%
Oregon	467,260	4,210	9.8%	11.0%	0.9%
Pennsylvania	795,662	11,580	6.2%	7.3%	1.5%
Rhode Island	148,648	1,687	13.5%	15.3%	0.9%
South Carolina	229,176	1,866	4.6%	6.0%	0.8%
South Dakota	35,886	1,098	3.9%	5.0%	3.0%
Tennessee	340,521	1,898	4.9%	6.0%	0.6%
Texas	4,948,899	36,772	17.9%	20.9%	0.7%
Utah	342,092	1,898	8.9%	10.9%	0.6%
Vermont	36,598	890	4.3%	4.8%	2.4%
Virginia	970,691	23,440	11.7%	14.9%	2.4%
Washington	957,635	17,707	13.6%	16.1%	1.8%
West Virginia	38,499	1,962	1.9%	3.0%	5.1%
Wisconsin	270,555	3,236	4.9%	5.9%	1.2%
Wyoming	19,195	705	3.3%	4.4%	3.7%

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

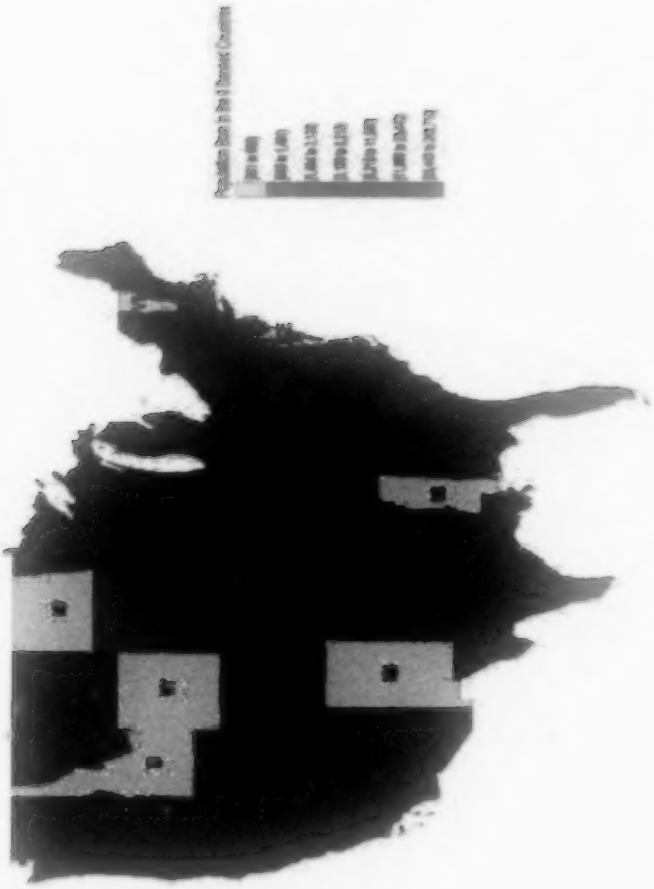
Figure V.1
Number of Immigrants, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at*

http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

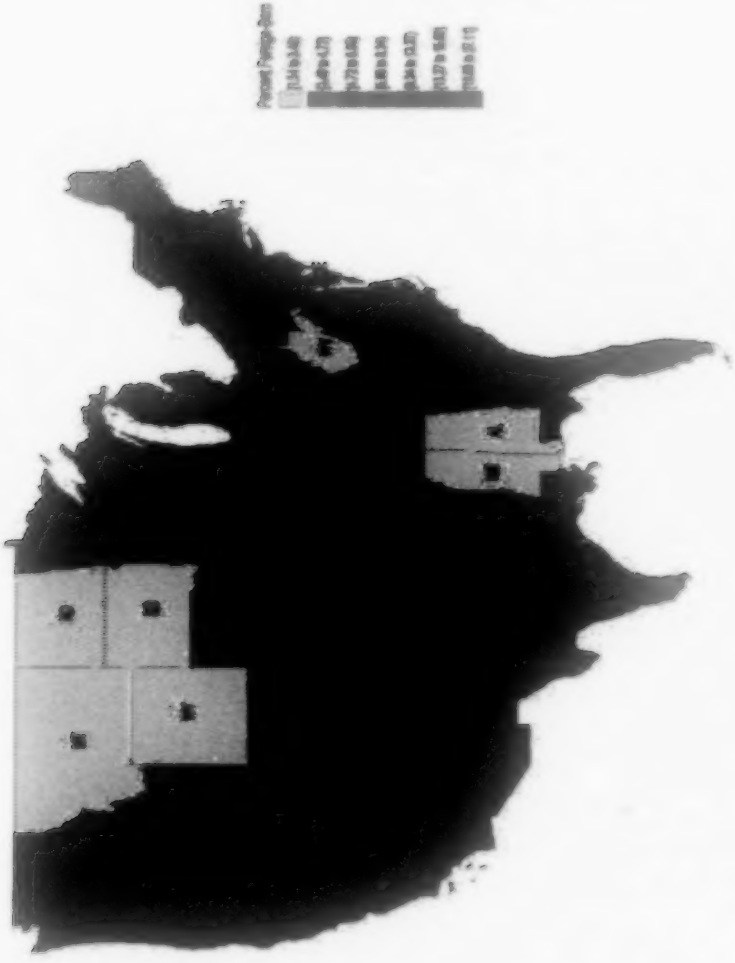
Figure V.2
Number of Immigrants from 6 Banned Countries, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek,

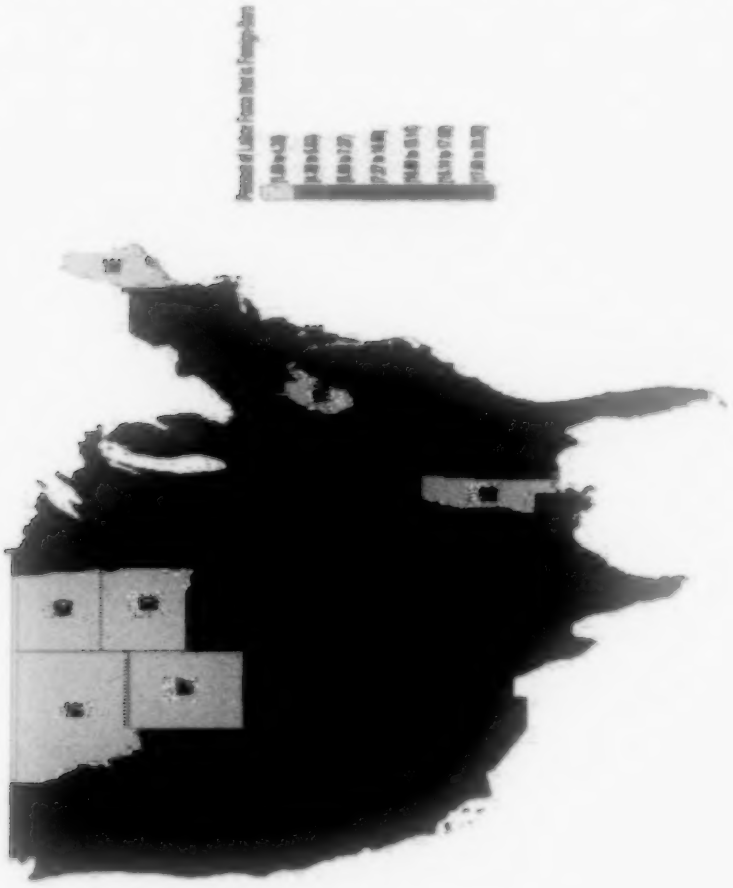
Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.3
Immigrants' Fraction of the Population, 2010-2015



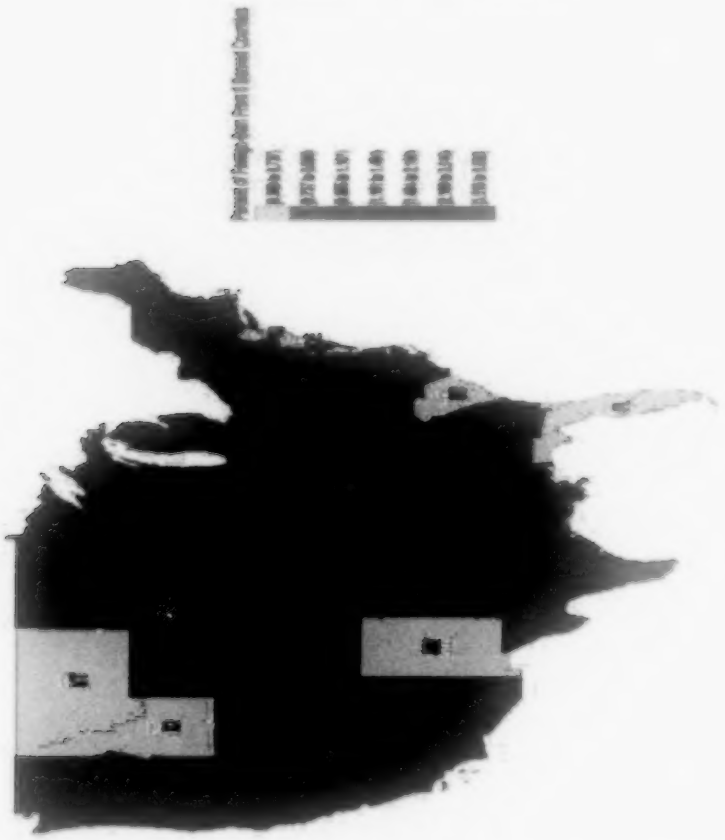
Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.4
Immigrants' Fraction of the Labor Force, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.5
Fraction of 6 Banned Countries Relative to All Immigrants, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

E. Percentage Changes of Immigrant Populations by State, 2005-2015

The percentage change in the "Number of Immigrants" corresponds to the percentage change in the total number of immigrants within the state over the 5 year interval (2005-2010 or 2010-2015). The percentage change in the "Number of Immigrants from the 6 Banned Countries" is calculated similarly, but only for immigrants from Syria, Iran, Libya, Sudan, Yemen, and Somalia.

The percentage change in "Immigrants' Fraction of State Population" corresponds to the percentage change in the fraction of immigrants residing in the state over the 5 year interval. Note, this is a percentage increase relative to the fraction of immigrants in the base year – it is not a percentage point increase. The percentage change in "Immigrants' Fraction of State Labor Force" is calculated similarly, but its calculations are with respect to the fraction of immigrants in the labor force. The percentage change in the "Fraction of All Immigrants that come from 6 Banned Countries" corresponds to the percentage increase in the share of immigrants that come from Syria, Iran, Libya, Sudan, Yemen, and Somalia. The fraction is calculated out of all immigrants in the state.

Tables V.9 and **V.10** present these summary statistics for each state in the periods 2005-2010 and 2010-2015. Below, we summarize our findings on the states that have the highest and the lowest values of the each of aforementioned statistics over the 2010 to 2015 time period. We also present data on the Massachusetts. **Figures V.6** to **V.10** present these statistics for 2010-2015 spatially on a map of the United States.

Percentage Changes, 2005-2010:

- Number of Immigrants:
  - Largest: Wyoming, Kentucky, Iowa, Alabama
  - Smallest or Most Negative: Montana, Michigan, New Hampshire
  - Massachusetts: +7.49%
- Number of Immigrants from 6 Banned Countries:
  - Largest: Alaska, Mississippi, Alabama, Maine, North Dakota
  - Smallest or Most Negative: Missouri, New Hampshire, Idaho
  - Massachusetts: +52.37%
- Immigrants' Fraction of State Population:
  - Largest: Kentucky, Iowa, Alabama, Vermont
  - Smallest or Most Negative: Colorado, Michigan, Idaho, Arizona, New Hampshire, Montana
  - Massachusetts: +1.65%
- Immigrants' Fraction of State Labor Force:
  - Largest: Alabama, Wyoming, Iowa, South Dakota, Louisiana, Kentucky

- Smallest or Most Negative: Colorado, Rhode Island, New Hampshire, Arizona, West Virginia, Montana
- Massachusetts: +3.24%

- **Fraction of All Immigrants that Come from 6 Banned Countries:**
  - Largest: Alaska, Mississippi, North Dakota, Maine, Rhode Island, Delaware
  - Smallest or Most Negative: Iowa, District of Columbia, Arkansas, Missouri, New Hampshire, Idaho
  - Massachusetts: +41.75%

Percentage **Changes, 2010-2015:**

- **Number of Immigrants:**
  - Largest: North Dakota, West Virginia, Alaska, South Dakota, Delaware
  - Smallest or Most Negative: Vermont, Alabama, New Mexico, Maine
  - Massachusetts: +12.76%
- **Number of Immigrants from 6 Banned Countries:**
  - Largest: West Virginia, District of Columbia, Pennsylvania, Wisconsin, Kansas, New Hampshire
  - Smallest or Most Negative: Iowa, Alaska, Oklahoma, Maine, Mississippi
  - Massachusetts: -6.39%
- **Immigrants' Fraction of State Population:**
  - Largest: West Virginia, North Dakota, Alaska, South Dakota, Delaware
  - Smallest or Most Negative: Hawaii, New Mexico, Alabama, Maine
  - Massachusetts: + 8.82%

- **Immigrants' Fraction of State Labor Force:**
  - Largest: West Virginia, North Dakota, South Dakota, Montana, Alaska
  - Smallest or Most Negative: California, Hawaii, Alabama, Mississippi
  - Massachusetts: +8.85%
- **Fraction of All Immigrants that Come from 6 Banned Countries:**
  - Largest: West Virginia, District of Columbia, Pennsylvania, Wisconsin
  - Smallest or Most Negative: Maine, North Dakota, Oklahoma, Alaska, Mississippi
  - Massachusetts: -16.98%

Table V.9
Percentage Change in Immigrants 2005-2010

State	All Immigrants	Immigrants from 6 Selected Countries	Immigrants' Fraction of the Population	Immigrants' Fraction of the Labor Force	Fraction of 6 Selected Countries Relative to All Immigrants
Alabama	47.93	388.85	52.89	89.50	344.89
Alaska	52.99	629.69	21.79	29.12	492.88
Arizona	3.48	33.89	5.34	8.45	51.84
Arkansas	25.64	-27.48	[illegible]	21.72	-42.79
California	5.34	39.54	-0.51	8.89	68.32
Colorado	8.62	50.97	-4.51	-2.46	41.66
Connecticut	34.25	-10.66	7.46	0.54	-22.05
Delaware	15.86	145.79	9.32	9.51	110.38
District of Columbia	20.59	-65.61	3.60	0.24	-78.09
Florida	15.94	16.32	4.86	6.31	36.54
Georgia	38.75	38.29	7.76	15.38	6.94
Hawaii	10.71	-19.15	2.38	3.92	-28.36
Idaho	9.68	68.26	6.15	8.39	68.69
Illinois	8.28	36.59	5.05	2.04	52.82
Indiana	26.42	0.00	3.45	34.58	-30.00
Iowa	45.31	-4.56	15.67	47.27	-46.41
Kansas	29.69	8.61	10.26	25.98	-17.16
Kentucky	44.79	38.46	14.86	42.17	-1.96
Louisiana	20.34	37.68	40.79	65.51	1.26
Maine	25.02	154.06	20.77	13.69	265.18
Maryland	24.03	59.14	17.76	23.65	0.10
Massachusetts	7.46	52.32	1.65	3.24	41.75
Michigan	4.14	-25.60	4.84	1.21	-28.54
Minnesota	35.79	44.98	7.87	12.18	25.36
Mississippi	26.20	448.32	28.84	30.34	337.47
Missouri	15.26	-45.74	8.26	5.46	52.61
Montana	-3.89	-0.89	-11.31	-11.26	8.00
Nebraska	35.95	85.10	8.09	11.62	1.86
Nevada	20.70	58.69	8.75	10.79	23.67
New Hampshire	6.72	-57.59	9.41	4.62	-54.68
New Jersey	11.66	22.93	7.08	8.69	9.99
New Mexico	26.54	38.50	15.20	17.94	-12.39
New York	8.58	-6.92	6.55	4.84	-9.08
North Carolina	28.66	53.93	11.60	17.41	19.64
North Dakota	34.08	1553.89	5.78	28.50	2344.89
Ohio	10.86	28.87	15.76	21.08	3.40
Oklahoma	30.38	75.20	20.70	19.29	28.68
Oregon	8.72	69.25	9.85	10.80	47.35
Pennsylvania	18.56	-10.85	8.01	29.48	-29.05
Rhode Island	3.90	175.38	8.01	2.52	166.57
South Carolina	29.55	99.26	6.03	27.38	65.04
South Dakota	9.26	0.00	1.06	45.34	0.00
Tennessee	38.08	93.95	21.37	28.10	-0.08
Texas	16.88	54.57	7.72	6.96	32.56
Utah	28.03	59.22	8.66	14.79	34.84
Vermont	34.48	0.00	31.61	26.86	0.00
Virginia	25.24	20.80	14.58	23.69	28.33
Washington	18.20	88.42	7.82	15.43	57.89
West Virginia	6.28	0.34	1.86	-18.26	2.78
Wisconsin	12.46	33.97	6.76	14.38	16.30
Wyoming	46.04	0.00	30.13	66.54	0.00

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Table V.10
Percentage Change in Immigrants 2010-2015

State	All Immigrants	Immigrants from 6 Banned Countries	Immigrants' Fraction of the Population	Immigrants' Fraction of the Labor Force	Fraction of 6 Banned Countries Relative to All Immigrants
Alabama	4.36	16.01	-5.91	-5.36	63.22
Alaska	38.06	-57.89	29.69	25.89	-69.66
Arizona	5.48	72.03	-0.84	-0.01	59.07
Arkansas	8.35	22.58	6.09	8.33	13.14
California	5.35	39.56	0.01	2.38	6.84
Colorado	8.79	40.13	0.61	1.73	-85.75
Connecticut	9.05	66.84	5.01	6.15	34.19
Delaware	28.46	98.74	22.39	26.25	-53.09
District of Columbia	19.57	194.86	7.55	4.72	569.89
Florida	12.47	73.69	3.62	5.58	54.94
Georgia	9.68	-3.97	4.84	8.84	-16.05
Hawaii	2.63	62.42	-2.34	4.54	77.34
Idaho	7.54	-33.33	3.39	3.88	-26.56
Illinois	3.65	5.47	1.51	2.98	6.01
Indiana	5.49	66.25	3.56	6.35	38.57
Iowa	3.27	-52.46	1.23	4.51	58.09
Kansas	10.59	231.36	10.76	10.67	89.96
Kentucky	10.79	-2.35	8.82	7.17	-11.86
Louisiana	13.13	45.75	10.07	8.35	39.45
Maine	12.78	-66.93	-11.84	4.62	-61.04
Maryland	10.29	26.56	9.09	9.69	16.35
Massachusetts	12.76	-6.59	8.82	8.85	-16.98
Michigan	13.04	38.09	12.09	13.36	29.42
Minnesota	19.46	25.72	15.75	20.17	-8.22
Mississippi	6.65	76.48	3.66	6.66	57.59
Missouri	1.65	-13.86	0.19	1.84	-15.26
Montana	5.79	0.00	3.40	10.59	0.00
Nebraska	12.54	-52.79	8.84	11.22	-48.26
Nevada	10.65	45.16	2.96	3.02	4.35
New Hampshire	5.77	114.75	4.67	4.50	68.71
New Jersey	7.50	-6.87	5.33	6.64	-12.01
New Mexico	5.82	84.07	6.79	5.30	74.21
New York	6.65	2.61	2.01	1.92	-2.63
North Carolina	10.47	-2.19	9.17	7.38	-11.46
North Dakota	58.89	-20.51	34.57	45.36	-43.40
Ohio	6.61	-2.39	5.92	6.56	8.29
Oklahoma	10.60	-66.56	6.35	13.72	-64.57
Oregon	5.85	37.67	0.48	1.88	31.25
Pennsylvania	11.50	138.37	11.09	9.03	103.65
Rhode Island	7.89	7.69	9.45	6.50	-4.96
South Carolina	8.96	-8.26	5.95	7.61	-9.09
South Dakota	38.25	47.58	23.88	34.23	13.33
Tennessee	11.97	-5.40	9.26	8.89	-15.06
Texas	11.89	27.52	2.80	2.59	18.67
Utah	6.27	-14.70	-1.51	-0.38	-16.13
Vermont	-0.48	-24.64	-0.47	7.05	-24.49
Virginia	12.05	-21.59	7.05	6.84	-31.85
Washington	8.46	4.25	1.84	6.47	-4.76
West Virginia	21.88	1,466.68	61.85	58.40	600.00
Wisconsin	13.93	135.79	17.34	16.85	106.57
Wyoming	16.54	-46.39	0.05	7.89	-47.44

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

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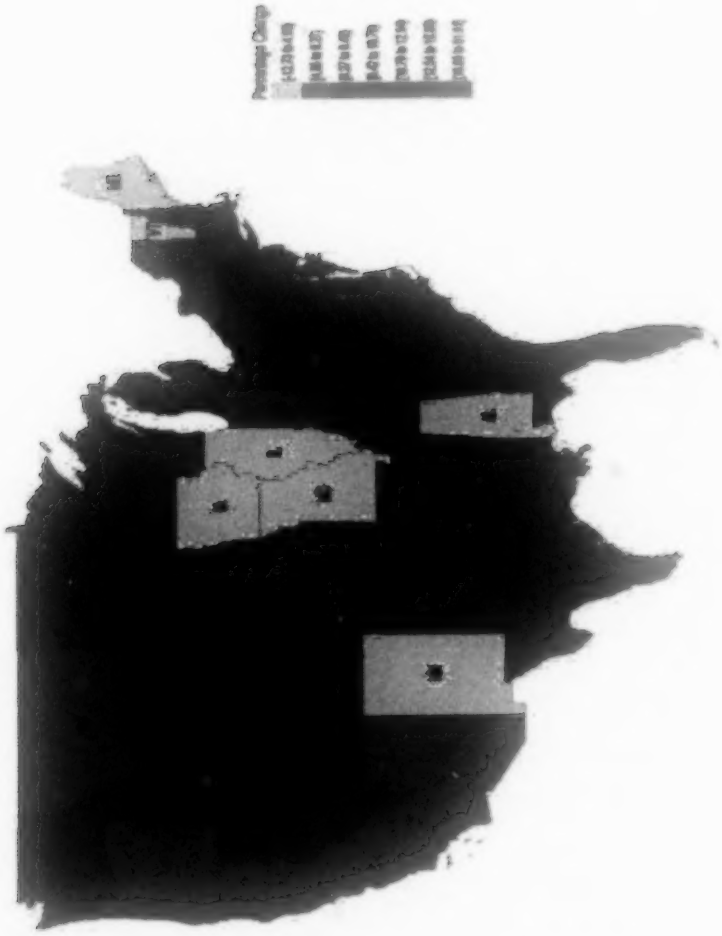
Figure V.6
Percentage Change in Number of Immigrants, 2010-2015



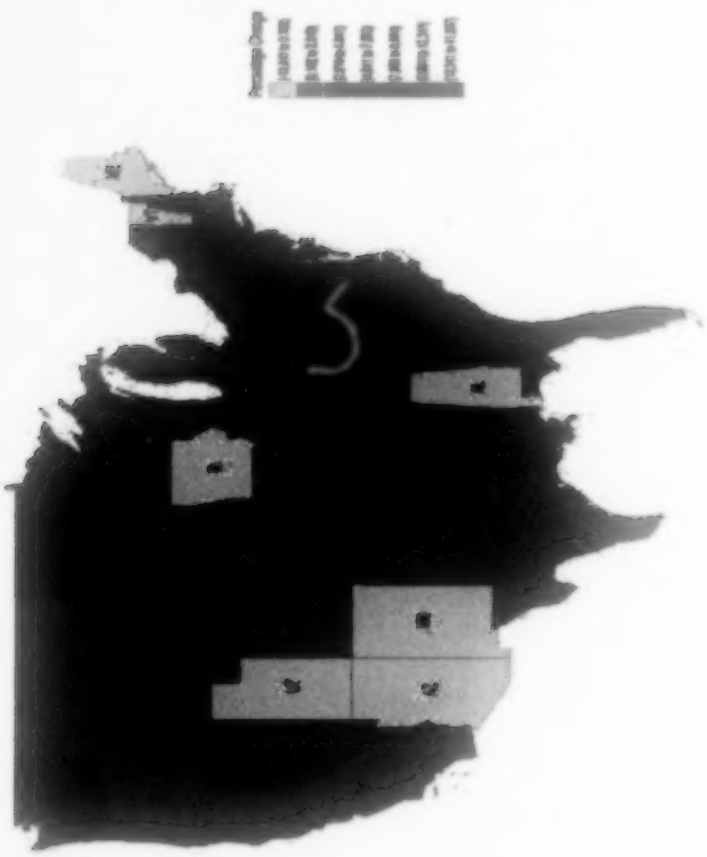
Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0,

University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.7
Percentage Change in Number of Immigrants from 6 Banned Countries, 2010-2015

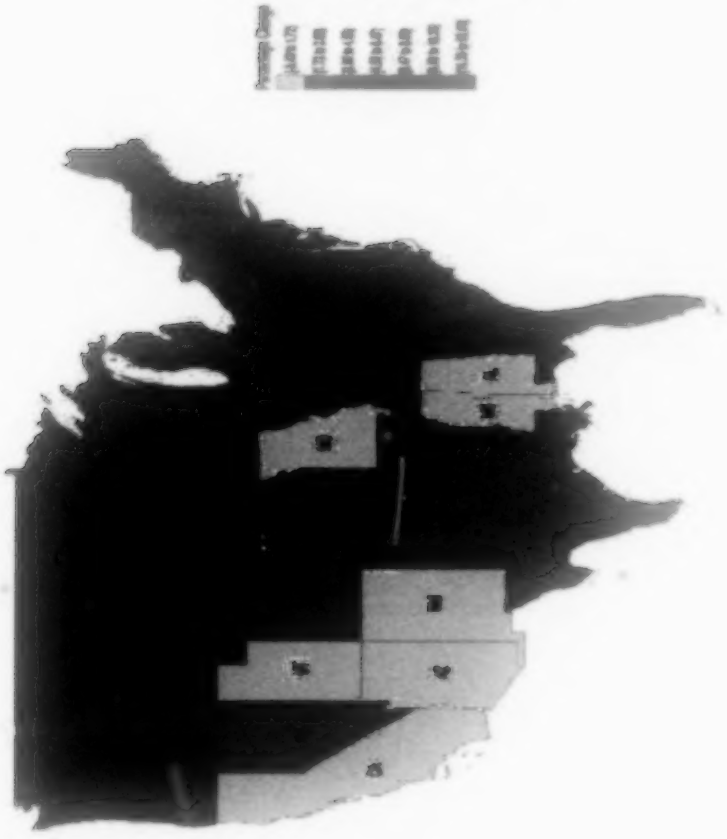
Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.8
Percentage Change in Immigrants' Fraction of State Population, 2010-2015



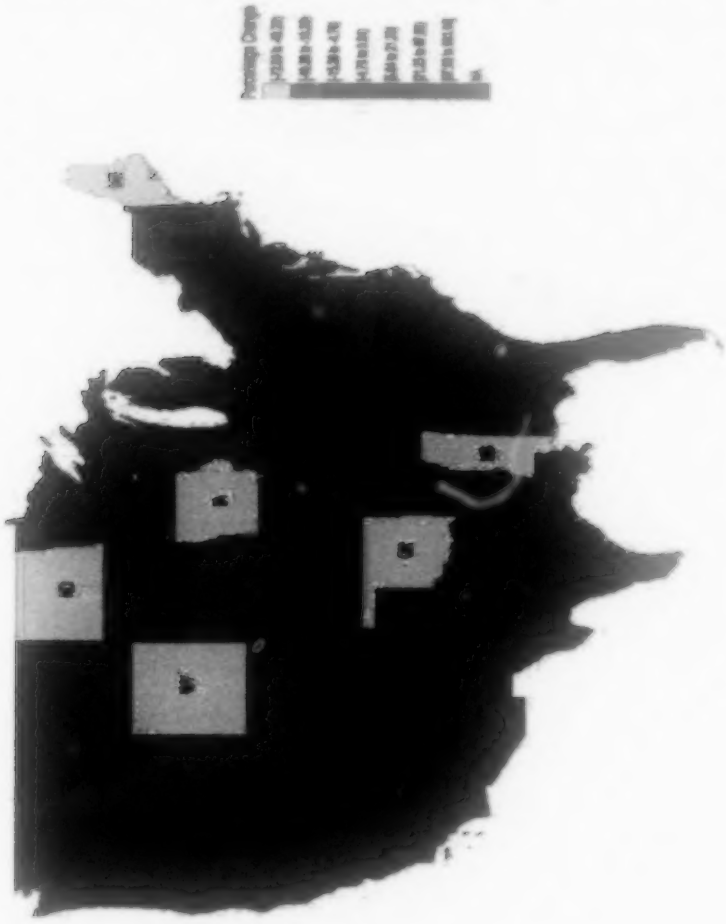
Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.9
Percentage Change in Immigrants' Fraction of State Labor Force, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

Figure V.10
Percentage Change in Fraction of All Immigrants that come from 6 Banned Countries, 2010-2015



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0,

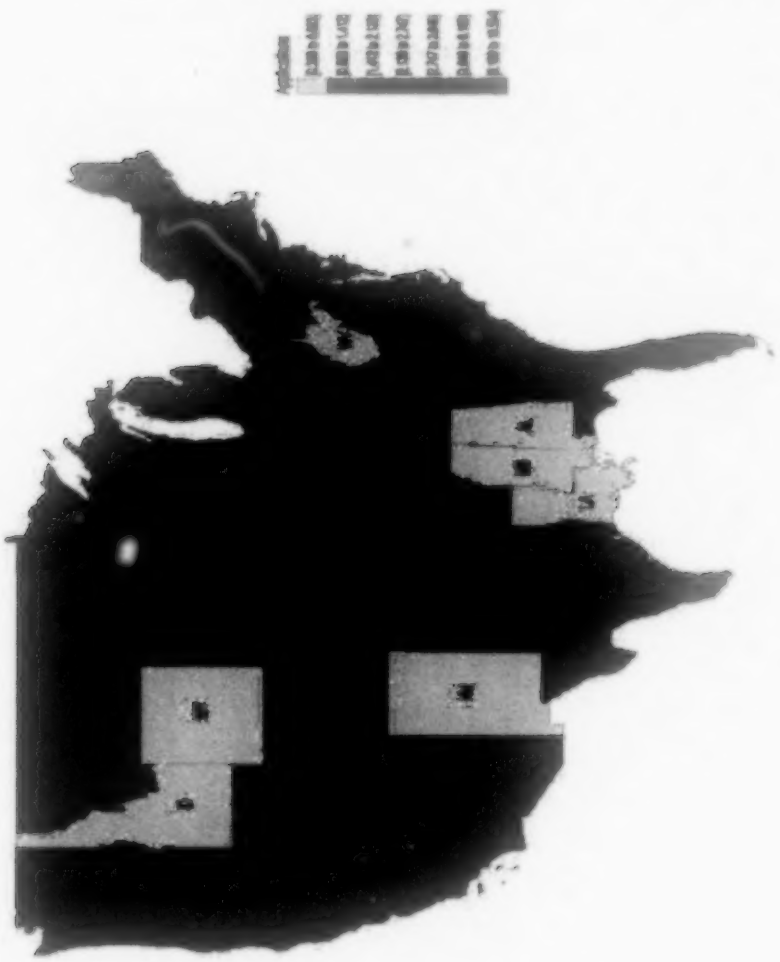
University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

F. Levels and Percentage Changes of Petitions for Skilled Workers, 2010-2016

The demand for foreign skilled labor can be measured by examining data on Labor Condition Applications ("LCA"). Whenever a U.S. company wants to hire a foreign worker through the H-1B, E-3, or H-1B1 visa programs, the petition needs to be certified by the U.S. Department of Labor Employment and Training Administration's Office of Foreign Labor Certification ("OFLC").

- **Temporary Agricultural Work Permits:**
  - The most applications for temporary agricultural work permits are made in California, Florida, Georgia, Louisiana, North Carolina, and Washington.
- **Temporary Non-Agricultural Work Permits:**
  - The most applications for temporary non-agricultural work permits (often used in resorts, among other areas) are made in Colorado, Florida, Louisiana, Massachusetts, Pennsylvania, and Texas.

Figure V.11
Labor Condition Applications per 1000 Persons in Fiscal Year 2016



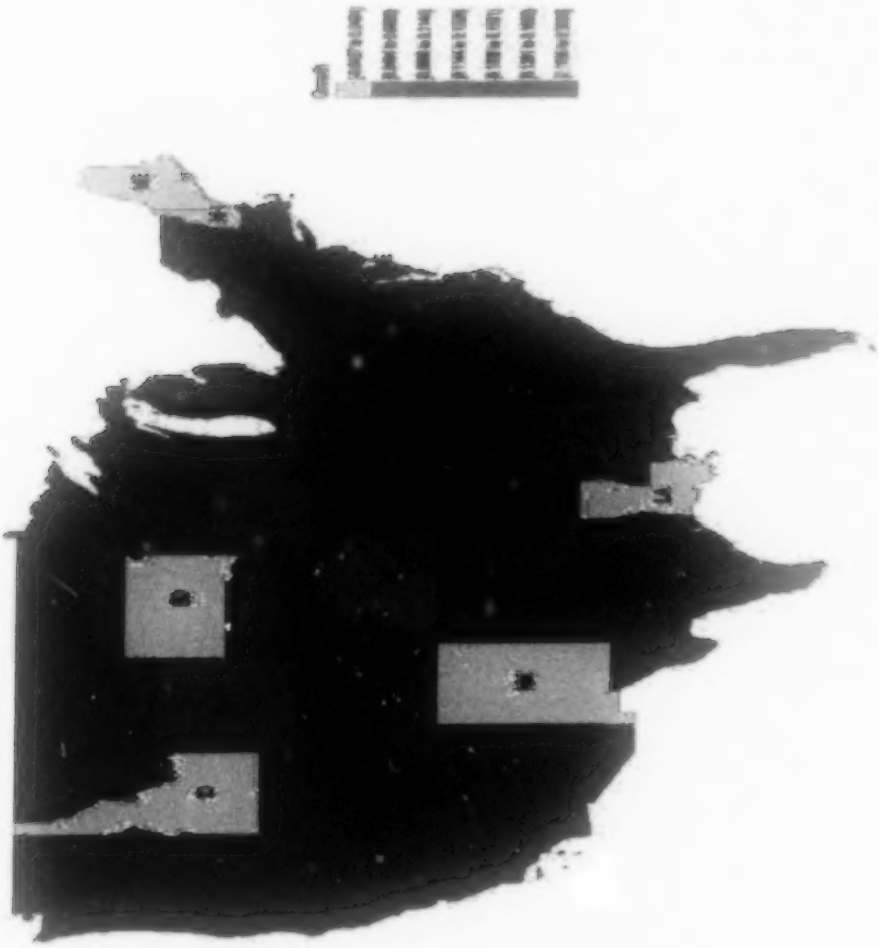
Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:

[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.

[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Figure V.12
Annual Growth in Labor Condition Applications,
Fiscal Years 2010-2016



Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:

[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.

[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Figure V.13
Employment-Based Green Card Applications per 1000 People in Fiscal Year 2016

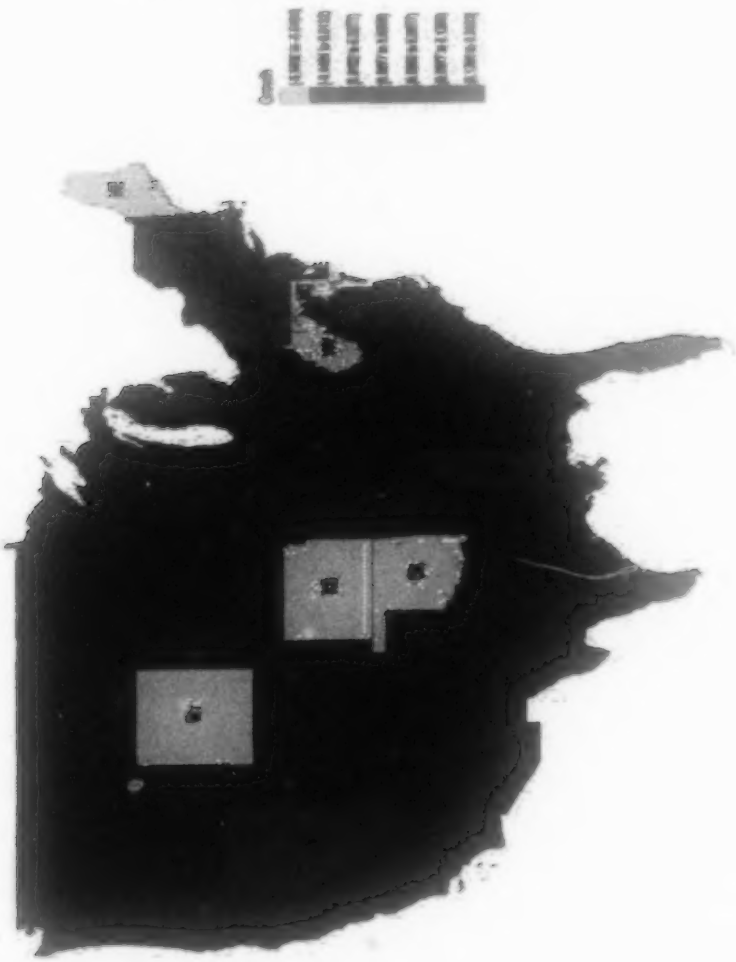
Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:

[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.
[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Figure V.14

Annual Growth in Employment-Based Green Card Applications, Fiscal Years 2010-2016



Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:

[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.

[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Figure V.15

Agricultural Temporary Work Visa Certifications per 1000 Persons in FY 2016

Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:
[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.
[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

Figure V.16
Non-Agricultural Temporary Work Visa
Certifications per 1000 Persons in FY 2013

Note: The U.S. Government's Fiscal Year starts on October 1st of the preceding calendar year and runs until September 30th.

Sources:
[1] U.S. Department of Labor, Office of Foreign Labor Certification, "Disclosure Data," *available at* https://www.foreignlaborcert.doleta.gov/performancedata.cfm, *accessed* April 4, 2017.
[2] U.S. Census Bureau, "State Population Totals Tables: 2010-2016," *available at* https://www.census.gov/data/tables/2016/demo/popest/state-total.html, *accessed* April 4, 2017.

G. Fiscal Effects of Immigrant Generation, 2011-2013

One recent study considers the fiscal effects of immigration for the period 2011-2013. The authors use the CPS Annual Social and Economic Supplement in their analysis combined with data on state government expenditures and revenues. They note the importance of accounting for second generation immigrants separately, which differentiates it from some previous analyses. When second generation immigrants are of working age and treated as independent individuals, they contribute revenues that exceed costs. The analysis is done at the level of the "independent person unit," which is defined as "one independent adult plus an assignment of any dependent children in whole or in part."[166] **Tables V.11-V.13** summarize findings from this study.

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[166] Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, *available at* https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

- For the United States as a whole, first generation independent person units cost the states on net about $1,600 each, while second generation independent person units contribute on net to state and local budgets about $1,700 each, and third-plus generation independent person units contribute on net to state and local budgets about $1,300 each.[167]
- These estimates of the fiscal impact imply that the total annual aggregate impact of the first generation and their dependents, averaged across 2011-13, is a cost of $57.4 billion, while the second and third-plus generation individuals (and their children) create benefits of $30.5 billion and $223.8

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[167] Estimates are constructed from the CPS Annual Social and Economic Supplement (ASEC). First generation immigrants: individuals who were born abroad who are noncitizens or naturalized citizens. Second generation individuals: individuals who were born in the United States with at least one foreign-born parent. Third-plus generation individuals: individuals who were born in the United States with two native-born parents. The institutional portion of Medicaid spending ($72 billion) is excluded due to missing this population in our data, which widens the gap between aggregate U.S. revenues and expenditures. After, all but two states have positive budget balances (compared with seven negative-balance states when all expenditure flows are included).

Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, *available at* https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

billion, respectively. Note that the surplus revenues raised the amount to $197 billion, which equals the surplus across all 50 states. (Calculated by totaling the unrounded estimates of net fiscal effects by state multiplied by the average number of independent persons in each year.)[168]

- This overall pattern is largely driven by the larger education costs for first generation independent person units, which include more children on average than units of the other two generations. By the second generation, immigrants are a net win for the states as a whole, given that they have fewer children on average than first generation units and are contributing in revenues more than they cost in expenditures.[169]
- Although per unit spending on the second generation independent person units is slightly more than it is on the third-plus generation units, the per unit net *difference* between revenues and

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[168] Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, ***available at*** https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

[169] Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, ***available at*** https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

expenditures is the most *positive* for second generation independent person units.[170]

- The relative contribution or burden of any independent person unit is driven largely by that unit's demographic and economic characteristics – most notably the number of dependents in the unit and the unit's income levels. Because first generation units tend to have less income and more dependents than units in the second or third-plus generation, they are more costly to state and local governments. However, the children of immigrants who are being educated grow up to become second generation adults, the group that, in general (but not always), contributes the most, when assessed in terms of independent person units, to a given state's fiscal health.[171]

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[170] Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, ***available at*** https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

[171] Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, ***available at*** https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

Table V.11
State and Local Revenues per Independent Person Unit, by Immigrant Generation by State 2011-2013

		Immigrant Generation				
Rank (All)	State	First	Second	Third+	All	Difference: First - Third+
1	Alaska	$37,250	$38,700	$36,100	$36,400	$1,150
2	District of Columbia	$34,700	$38,400	$28,200	$27,800	$3,500
3	Wyoming	$24,100	$21,950	$24,250	$24,150	-$150
4	New York	$30,200	$32,900	$29,450	$32,400	$3,250
5	North Dakota	$20,700	$17,050	$20,450	$20,300	$250
6	California	$15,800	$14,450	$18,150	$17,800	-$2,350
7	Connecticut	$14,800	$15,800	$17,050	$16,550	-$2,250
8	Nebraska	$15,700	$15,350	$18,400	$16,800	-$700
9	Massachusetts	$14,900	$15,300	$16,600	$16,150	-$1,700
10	Delaware	$16,050	$15,300	$16,150	$16,100	-$100
11	Minnesota	$14,550	$14,400	$16,150	$15,900	-$1,600
12	New Jersey	$14,350	$13,050	$16,700	$15,850	-$2,350
13	Hawaii	$14,200	$14,850	$16,400	$15,700	-$2,200
14	Vermont	$15,650	$14,950	$15,650	$15,550	$0
15	Rhode Island	$14,300	$13,950	$15,900	$15,350	-$1,600
16	Oregon	$14,050	$15,500	$15,150	$15,250	-$950
17	New Mexico	$17,450	$15,400	$14,850	$15,200	$2,600
18	Iowa	$15,750	$15,000	$16,150	$15,200	-$400
19	Washington	$14,650	$14,900	$15,250	$15,100	-$600
20	Ohio	$13,850	$14,450	$14,850	$14,750	-$1,350
21	Louisiana	$12,950	$14,450	$14,650	$14,550	-$1,650
22	Wisconsin	$13,850	$13,450	$14,550	$14,400	-$750
23	Mississippi	$14,450	$15,050	$14,350	$14,400	$100
24	Illinois	$12,450	$13,850	$14,750	$14,300	-$2,250
25	Maryland	$13,900	$15,850	$14,350	$14,250	-$500.00
26	Colorado	$12,850	$14,200	$14,250	$14,150	-$1,250
27	Utah	$15,650	$15,650	$15,900	$15,850	-$250
28	Kansas	$15,750	$15,200	$15,850	$15,750	$0
29	Pennsylvania	$14,050	$12,050	$13,950	$13,500	$900
30	South Dakota	$12,950	$10,550	$15,350	$13,450	-$400
31	Montana	$15,000	$10,700	$13,450	$13,350	$1,550
32	North Carolina	$12,800	$13,500	$13,250	$13,250	-$450
33	Michigan	$12,300	$12,450	$13,250	$13,100	-$950
34	West Virginia	$14,100	$13,350	$13,950	$13,000	$3,100
35	South Carolina	$13,150	$14,550	$12,900	$12,950	$300
36	Oklahoma	$12,100	$14,300	$12,800	$12,850	-$700
37	Virginia	$12,500	$13,500	$12,800	$12,800	-$300
38	Nevada	$11,500	$13,350	$13,100	$12,660	-$1,600
39	Texas	$11,950	$12,950	$12,850	$12,650	-$900
40	Maine	$12,750	$12,050	$13,700	$12,860	-$98
41	Missouri	$12,150	$12,800	$12,500	$12,500	-$350
42	Alabama	$12,650	$12,900	$12,500	$12,500	$150
43	Tennessee	$12,000	$11,750	$12,250	$12,250	-$250
44	Indiana	$12,400	$12,350	$12,200	$12,250	$150
45	Arkansas	$11,950	$12,800	$12,200	$12,200	-$300
46	Kentucky	$12,200	$13,750	$12,050	$12,100	$150
47	Arizona	$11,000	$12,000	$12,150	$11,900	-$1,150
48	Georgia	$10,850	$12,200	$12,050	$11,900	-$1,200
49	New Hampshire	$11,500	$11,500	$11,900	$11,850	-$400
50	Florida	$11,050	$12,550	$12,050	$11,800	-$1,000
51	Idaho	$10,400	$11,600	$11,800	$11,650	-$1,400
	Top 15 states by % in first generation	*$14,650*	*$16,700*	*$15,100*	*$15,750*	*-$1,450*
	Avg. U.S.	*$14,850*	*$15,900*	*$14,700*	*$14,800*	*-$150*

Source: Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, *available at* https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

Table V.12
State and Local Expenditures per Independent Person Unit, by Immigrant Generation by State 2011-2013

		Immigrant Generation				Difference:
Rank: (All)	State	First	Second	Third+	All	First - Third+
1	Alaska	$33,300	$32,950	$29,250	$29,950	$4,050
2	District of Columbia	$27,590	$31,300	$29,500	$28,500	-$2,000
3	Wyoming	$22,800	$18,400	$20,800	$20,750	$2,000
4	New York	$21,700	$17,800	$20,850	$20,780	$850
5	California	$17,850	$16,900	$16,050	$16,750	$1,800
6	Massachusetts	$17,150	$15,000	$16,150	$15,950	$1,050
7	New Jersey	$16,200	$12,750	$16,000	$15,650	$200
8	Delaware	$16,550	$13,250	$15,450	$15,450	$1,150
9	Connecticut	$15,400	$12,300	$15,750	$15,300	-$350
10	Washington	$17,250	$14,300	$14,900	$15,020	$2,250
11	North Dakota	$17,500	$11,900	$15,050	$14,950	$2,450
12	Nebraska	$17,000	$14,100	$14,500	$14,450	$3,400
13	Louisiana	$13,400	$15,550	$14,850	$14,800	-$1,500
14	New Mexico	$14,950	$15,150	$13,650	$14,650	$1,350
15	Hawaii	$14,900	$13,800	$14,700	$14,600	$200
16	Vermont	$18,400	$11,500	$14,800	$14,400	$800
17	Minnesota	$19,850	$11,100	$13,950	$14,300	$5,650
18	Rhode Island	$15,800	$11,800	$12,300	$14,200	$3,500
19	Illinois	$15,150	$15,250	$13,750	$13,950	$1,400
20	Oregon	$17,850	$18,250	$13,450	$13,850	$4,300
21	Iowa	$16,800	$12,450	$13,600	$13,750	$3,200
22	Maryland	$13,500	$12,600	$13,300	$13,700	$150
23	Utah	$15,550	$14,100	$13,400	$13,650	$2,200
24	Colorado	$15,850	$13,150	$13,300	$13,300	$2,600
25	Pennsylvania	$15,300	$10,300	$13,300	$13,250	$2,000
26	Wisconsin	$17,550	$11,900	$13,050	$13,200	$4,550
27	Ohio	$13,000	$10,750	$13,350	$13,200	-$300
28	Mississippi	$13,150	$12,600	$13,000	$13,080	$150
29	Kansas	$16,300	$12,050	$12,800	$12,900	$3,600
30	South Carolina	$13,800	$12,100	$12,300	$12,350	$700
31	Montana	$13,100	$9,500	$12,550	$12,550	$600
32	Michigan	$13,800	$9,900	$12,450	$12,380	$1,350
33	Texas	$14,000	$13,150	$11,450	$12,200	$2,500
34	Virginia	$13,080	$13,200	$11,840	$12,180	$1,300
35	Kentucky	$13,150	$11,300	$11,950	$12,000	$1,200
36	Alabama	$13,700	$9,650	$11,900	$11,950	$1,800
37	North Carolina	$13,450	$11,750	$11,750	$11,900	$1,700
38	Maine	$13,100	$9,800	$11,950	$11,800	$1,150
39	South Dakota	$13,450	$9,050	$11,650	$11,600	$1,800
40	Nevada	$12,800	$11,300	$11,150	$11,350	$1,650
41	Tennessee	$12,700	$10,500	$11,900	$11,550	$1,150
42	West Virginia	$15,300	$8,500	$11,400	$11,450	$4,300
43	Oklahoma	$11,900	$12,350	$11,350	$11,400	$600
44	Missouri	$12,300	$10,500	$11,300	$11,350	$1,050
45	Georgia	$12,100	$11,550	$11,200	$11,300	$850
46	New Hampshire	$12,000	$9,800	$11,500	$11,300	$700
47	Indiana	$12,750	$10,800	$11,200	$11,750	$1,050
48	Arizona	$12,950	$11,750	$10,400	$10,950	$1,950
49	Arkansas	$13,150	$11,150	$10,750	$10,900	$2,350
50	Florida	$13,450	$10,350	$10,700	$10,850	$700
51	Idaho	$11,450	$11,000	$10,300	$10,450	$1,150
	Top 15 states by % in first generation	*$16,350*	*$14,600*	*$14,450*	*$14,850*	*$1,850*
	Avg. U.S.	*$13,850*	*$12,800*	*$12,400*	*$12,850*	*$1,550*

Source: Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016, *available at* https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

Table V.13
Net Difference between State and Local Revenues and Expenditures Independent Person Unit by Immigrant Generation by State 2011-2013

		Immigrant Generation				Difference:
Rank (All)	State	First	Second	Third+	All	First - Third+
1	Alaska	$3,950	$5,800	$6,850	$6,450	-$2,900
2	North Dakota	$3,250	$5,300	$5,400	$5,350	-$2,200
3	Wyoming	$1,300	$2,550	$3,450	$3,400	-$2,150
4	South Dakota	-$350	$1,300	$1,950	$1,720	-$2,480
5	New York	-$1,500	$4,400	$2,600	$2,700	-$4,050
6	Minnesota	-$1,100	$3,300	$2,300	$2,000	-$3,250
7	Ohio	$450	$3,650	$1,900	$1,550	-$1,050
8	West Virginia	$550	$3,850	$1,500	$1,350	-$950
9	Nebraska	-$2,200	$1,900	$1,900	$1,450	-$4,100
10	Iowa	-$1,000	$3,350	$1,550	$1,410	-$2,600
11	Oklahoma	$200	$1,950	$1,500	$1,450	-$1,300
12	Mississippi	$1,800	$2,600	$1,350	$1,400	$450
13	Oregon	-$1,900	$2,250	$1,690	$1,300	-$3,550
14	North Carolina	-$650	$3,700	$1,500	$1,300	-$2,150
15	Arkansas	-$1,200	$1,650	$1,450	$1,300	-$2,650
16	Connecticut	-$800	$3,550	$1,300	$1,250	-$1,900
17	Wisconsin	-$3,850	$1,550	$1,550	$1,250	-$5,250
18	Idaho	-$1,050	$600	$1,500	$1,200	-$2,550
19	Missouri	-$150	$2,250	$1,300	$1,200	-$1,400
20	Hawaii	-$700	$1,750	$1,700	$1,150	-$2,400
21	Rhode Island	-$1,900	$2,100	$1,800	$1,130	-$3,100
22	Maryland	$250	$3,400	$1,000	$1,750	-$750
23	California	-$2,050	$4,550	$3,100	$1,050	-$5,150
24	Nevada	-$1,300	$1,600	$1,950	$1,050	-$3,250
25	Indiana	$150	$1,750	$1,050	$1,050	-$900
26	Arizona	-$1,345	$850	$1,750	$1,000	-$3,100
27	Florida	-$350	$1,300	$1,350	$950	-$1,700
28	Montana	-$1,350	$1,700	$950	$900	-$950
29	Kansas	-$2,450	$2,150	$1,150	$850	-$3,600
30	Alaska	-$350	$2,450	$750	$850	-$1,100
31	Michigan	-$250	$3,550	$800	$800	-$1,050
32	Tennessee	-$700	$1,200	$750	$760	-$1,450
33	Virginia	-$800	$1,300	$800	$450	-$1,400
34	Delaware	-$300	$2,050	$750	$850	-$1,250
35	New Hampshire	-$550	$1,750	$850	$800	-$1,100
36	South Carolina	$150	$2,600	$550	$600	-$450
37	Maryland	-$100	$2,050	$950	$550	-$650
38	Georgia	-$1,250	$650	$800	$550	-$2,050
39	New Mexico	-$2,550	$250	$1,000	$550	-$3,550
40	Alabama	-$1,380	$1,300	$640	$550	-$2,050
41	Colorado	-$2,950	$1,050	$900	$500	-$3,850
42	Texas	-$2,050	-$400	$1,400	$450	-$3,450
43	Illinois	-$2,700	$550	$1,000	$150	-$3,850
44	Massachusetts	-$2,250	$1,300	$600	$250	-$2,750
45	Utah	-$1,850	-$450	$900	$250	-$2,450
46	Pennsylvania	-$1,250	$1,750	$250	$250	-$1,500
47	New Jersey	-$1,850	$2,300	$700	$200	-$2,550
48	Washington	-$3,850	$800	$750	$100	-$4,850
49	Kentucky	-$950	$2,400	$100	$100	-$1,050
50	Louisiana	-$600	-$1,100	-$250	-$250	-$200
51	District of Columbia	$2,800	$7,100	$1,300	$850	$1,500
	Top 10 states by % in that generation	-$1,750	$2,450	$2,850	$950	-$5,400
	Avg U.S.	-$1,600	$1,700	$2,900	$950	-$2,000

Source: Blau, Francine D., Christopher Mackie, "The Economic and Fiscal Consequences of Immigration," The National Academies Press, 2016.

MASSTLC

available at https://www.nap.edu/read/23550/chapter/11, *accessed* February 20, 2017, pp. 381-442.

VI. HIGH-SKILLED IMMIGRANTS

KEY TAKEAWAYS

- **From 2000 to 2010, over 75,000 non-citizens enlisted in the U.S. military.**
- **Non-resident students earned 13.8 and 11.9 percent of the Master's and Doctor's degrees conferred in the 2013/14 school year, respectively. Furthermore, non-resident students were disproportionately more likely to get their degrees in a STEM field, with international students making up over 30 percent of the post-baccalaureate degrees in STEM fields. This finding is even more distinct when looking at degrees in mathematics and statistics, where 46.3 and 49.2 percent of Master's and Doctor's degrees, respectively, were given to non-residents.**
- **International students during the 2015/16 school year contributed $32.8 billion to the U.S. economy and supported more than 400,000 jobs.**
- **Individuals from the six banned countries are more likely to have a bachelor's degree, approximately twice as likely to have a post-baccalaureate's degree, and four times as likely to have a doctoral degree relative to the native-born population.**

- **Immigrants accounted for 31 percent of physicians from 2011-2015 while only making up 20 percent of the prime-working age population (ages 25-54).**
- **Among native-born individuals aged 25 to 54, 0.1 percent work in an engineering occupation with a Doctor's degree, compared to 0.5 percent of foreign-born individuals aged 25 to 54. This difference is even more pronounced when focused on the six banned countries, where 1.1 percent of 25 to 54 year olds work in engineering with a Doctor's degree.**

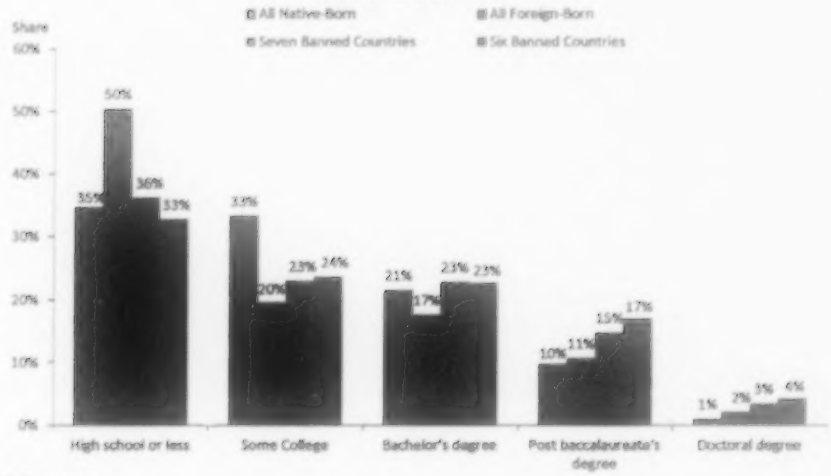
A. Characteristics of High-Skilled Immigrants

i. Education Levels

- As shown in **Figure VI.1**, while prime-working aged foreign-born individuals are more likely than native-born individuals to have a high-school degree or less, foreign-born individuals are twice as likely to have a doctoral degree. One percent of native-born individuals aged 25 to 54 have a doctoral degree whereas two percent of foreign-born individuals do.
- This difference is even more pronounced when looking at the six countries targeted by President Trump's most recent ban. Individuals from the six banned countries are more likely to have a bachelor's degree, approximately twice as likely to have a post-baccalaureate's degree, and four times as likely to have a doctoral degree, relative to the native-born population.

- A recent study focusing on the immigration population in Boston found that 41 percent of immigrants have a college degree or higher.[172] In comparison, the national average of foreign-born individuals with a college degree or higher is approximately 30 percent.

Figure VI.1
Educational Attainment of 25 to 54 Year-Olds by Nativity Status
2011-2015



Notes:

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172 Osterman, Paul, Kimball, William, and Christine Riordan, "Boston's Immigrants: An Essential Component of a Strong Economy," JVS, May 10, 2017, *available at* https://jvs-boston.org/images/pdf/Osterman%20Report%20-%20Final.pdf, *accessed* May 21, 2017, p. 4.

[1] "Some College" includes individuals that reported having attained an Associate's degree as well as individuals that reported attending college without receiving a Bachelor's degree.
[2] "Post baccalaureate's degree" includes individuals that reported having attained some sort of Master's or professional degree beyond a Bachelor's degree.

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

ii. Medical Professionals

- As shown in **Table VI.1**, immigrants accounted for 31 percent of physicians from 2011-2015 while only making up 20 percent of the prime-working age population (ages 25-54).
- While the majority of immigrants are located on the coasts of the U.S., foreign-born physicians are much more likely to locate in the center of the country. For example, only six percent of Ohio's prime working age population is foreign-born, but 29 percent of Ohio's physicians are foreign-born. Similarly, only six percent of Kentucky's prime working age population is foreign-born, but 26 percent of the state's physicians are foreign-born.

Table VI.1
Foreign-Born Share of Physicians by State
2011-2015

State	Total population	Foreign-born share	Total physicians	Foreign-born share
Alabama	1,895,876	6%	7,180	21%
Arizona	2,563,186	22%	11,332	31%
California	16,039,498	40%	69,018	41%
Connecticut	1,442,853	21%	10,109	30%
District of Columbia	313,017	21%	2,769	20%
Georgia	4,150,957	17%	14,996	28%
Idaho	610,440	10%	2,052	11%
Indiana	2,574,882	8%	10,493	29%
Kansas	1,108,403	13%	5,965	29%
Louisiana	1,848,333	7%	9,046	22%
Maryland	2,475,335	23%	17,173	39%
Michigan	3,831,013	10%	21,494	31%
Mississippi	1,157,034	4%	3,645	21%
Montana	377,554	3%	1,770	12%
Nevada	1,163,879	30%	4,244	38%
New Jersey	3,682,345	32%	20,799	41%
New York	8,155,659	32%	56,514	42%
North Dakota	273,840	5%	1,081	19%
Oklahoma	1,494,154	10%	5,213	16%
Pennsylvania	4,989,917	10%	31,922	29%
South Carolina	1,860,878	9%	7,174	17%
Tennessee	2,597,524	9%	12,338	20%
Utah	1,122,475	15%	5,109	14%
Virginia	3,438,508	19%	17,475	30%
West Virginia	707,876	3%	3,722	25%
Wyoming	225,267	6%	884	11%

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Foreign-born individuals are also more likely to work in engineering or life sciences. 0.1 percent of native-born individuals aged 25 to 54 work in an engineering occupation with a Doctor's degree compared to 0.5 percent of foreign-born individuals aged 25 to 54. This difference is even more pronounced when focused on the six banned countries, where 1.1 percent of 25 to 54 year olds work in engineering with a Doctor's degree. Similarly, 0.4 percent of 25 to 54 year old native-born individuals work in the life sciences with a Doctor's degree in comparison to 1.6 percent of foreign-born individuals and 1.4 percent of individuals born in the six banned countries.

Table VI.2
Share of 25 to 54 Year-Olds Working in Engineering and Life Sciences
by Education and Nativity Status
2011-2015

	Native-born Share	Foreign-born Share	Share from Six Banned Countries	Share from Seven Banned Countries
Bachelor's Degree				
Engineering	2.0%	2.0%	2.0%	2.7%
Life Sciences	0.8%	0.7%	0.6%	0.9%
Post Baccalaureate's degree				
Engineering	0.7%	1.5%	1.9%	2.0%
Life Sciences	0.7%	1.1%	1.3%	1.7%
Doctor's Degree				
Engineering	0.1%	0.5%	1.1%	1.0%
Life Sciences	0.4%	1.6%	1.4%	1.3%

Note: "Post baccalaureate's degree" includes individuals that reported having attained some sort of Master's or professional degree beyond a Bachelor's degree.

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

B. Immigrants in the U.S. Military

Immigrants are an important part of the U.S. military and have contributed in significant ways to the safety of the American people.

- From 2000 to 2010, over 75,000 non-citizens enlisted in the U.S. military.[173]
- From 2000 to 2010, the monthly average number of non-citizen enlisted accessions to the U.S. military was 582.8 per month, compared with an average of 14,795 per month among citizens. On average, non-

[173] Yalcinkaya, Huseyin, "The Effect of Executive Order 13269 on Noncitizen Enlisted Accessions in the U.S. Military," Dissertation at the Naval Postgraduate School, March 2013, *available at* http://calhoun.nps.edu/bitstream/handle/10945/32921/13Mar_Yalcinkaya_Can.pdf?sequence=1, *accessed* April 4, 2017, p. 21.

citizen accessions comprised 3.8 percent of total accessions.[174]

- The Navy has the largest proportion of non-citizen accessions with 5 percent. The Army and Marines have 3.8 and 4 percent, respectively. Non-citizen enlisted accessions in the Air Force and Coast Guard account for 2.2 and 1.7 percent, respectively.[175]

Table VI.3
Non-citizen Accessions by Military Branch
2000-2010

Non-citizen Accessions Share	Total	Army	Air Force	Navy	Marine Corps	Coast Guard
Total Accessions	1,959,707	813,820	337,280	436,416	357,087	89,674
Non-citizen Accessions	75,176	30,632	7,518	21,821	14,283	634
Share (%)	3.8%	3.8%	2.2%	5.0%	4.0%	1.7%

Notes:
[1] Non-citizens are defined as those who are not citizens at the time of enlistment.

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[174] Yalcinkaya, Huseyin, "The Effect of Executive Order 13269 on Noncitizen Enlisted Accessions in the U.S. Military," Dissertation at the Naval Postgraduate School, March 2013, *available at* http://calhoun.nps.edu/bitstream/handle/10945/32921/13Mar_Yalcinkaya_Can.pdf?sequence=1, *accessed* April 4, 2017, pp. 26-28.

[175] Yalcinkaya, Huseyin, "The Effect of Executive Order 13269 on Noncitizen Enlisted Accessions in the U.S. Military," Dissertation at the Naval Postgraduate School, March 2013, *available at* http://calhoun.nps.edu/bitstream/handle/10945/32921/13Mar_Yalcinkaya_Can.pdf?sequence=1, *accessed* April 4, 2017, p. 28.

[2] Total accessions reflect the total number of accessions from FY 2000 to FY 2010.
[3] The sum of individual branches does not equal the Total for "Non-citizen Accessions" due to rounding.

Source: Yalcinkaya, Huseyin, "The Effect of Executive Order 13269 on Noncitizen Enlisted Accessions in the U.S. Military," Dissertation at the Naval Postgraduate School, March 2013, *available at* http://calhoun.nps.edu/bitstream/handle/10945/32921/13Mar_Yalcinkaya_Can.pdf?sequence=1, *accessed* April 4, 2017, p. 21-23.

- Mexico is the largest source of non-citizen accessions for every service branch except for the Navy (for which the Philippines is the largest). Other top birth countries among non-citizen accessions are Jamaica, South Korea, Dominican Republic, El Salvador, Colombia, and Haiti.[176]

Table VI.4
Top 5 Countries of Origin among Non-citizens by Military Branch
1995-2003

Total	Army	Air Force	Navy	Marine Corps
Mexico	Mexico	Mexico	Philippines	Mexico
Philippines	Jamaica	Philippines	Mexico	Philippines
Jamaica	Philippines	Jamaica	Jamaica	Jamaica
Dominican Rep.	South Korea	El Salvador	Dominican Rep.	El Salvador
El Salvador	Dominican Rep.	Colombia	Haiti	Dominican Rep.

[176] Hattiangadi, et al., "Non-citizens in Today's Military: Final Report," Center for Naval Analyses, April 2005, *available at* https://www.cna.org/CNA_files/PDF/D0011092.A2.pdf, *accessed* April 4, 2017, pp. 23-24.

Notes:
[1] Non-citizens are defined as those who are not citizens at the time of enlistment.
[2] Countries are listed in descending order by the number of non-citizens from each country.
[3] Data from the Coast Guard are not available.
[4] Top 5 countries constituted the following share of total non-citizen accessions in each branch: Army - 39%; Air Force - 43%; Navy - 46%; Marine Corps - 43%.

Source: Hattiangadi, et al., "Non-citizens in Today's Military: Final Report," Center for Naval Analyses, April 2005, *available at* https://www.cna.org/CNA_files/PDF/D0011092.A2.pdf, *accessed* April 4, 2017, pp. 23-24.

- Only U.S. citizens are eligible for security clearance in the U.S. military. Therefore, non-U.S. citizens are generally not employed in duties that may require access to classified information.[177] Furthermore, only U.S. citizens are permitted to become officers.[178] These job limitations suggest that non-citizen members may have a higher casualty rate than citizen members. Indeed, a 2005 article from USA Today found that "[s]ome 142 non-citizen troops

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[177] 32 C.F.R. § 154.16.c –Security Clearance, *available at* https://www.law.cornell.edu/cfr/text/32/154.16, *accessed* April 4, 2017.

[178] 10 U.S.C § 532.a.1 - Qualifications for original appointment as a commissioned officer, *available at* https://www.law.cornell.edu/uscode/text/10/532, *accessed* April 4, 2017.

died in Iraq and Afghanistan. Non-citizens' casualty rates represent 8% of the total despite being less than 3% of active duty military personnel."[179]

C. Immigrants Enrolled in U.S. Higher Education Institutions

Immigrants and foreign students are vital components of U.S. institutions of higher education, especially in graduate degree programs and STEM fields.

i. Degrees Conferred in the U.S.

- As shown in **Table VI.5**, during the 2013/14 school year, nearly two million Bachelor's degrees were conferred at U.S. postsecondary institutions. Of those, only 3.7 percent were to non-residents. However, the non-residents share of mathematics and statistics degrees was nearly 3 times higher, with non-residents making up 11.6 percent of the mathematics and statistics degrees in the U.S.
- Non-resident students made up a much higher share of the Master's and Doctor's degrees conferred in 2013/14, 13.8 and 11.9 percent, respectively. Furthermore, non-resident students were disproportionately more likely to get their degrees in a STEM

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[179] "Military Recruiting Slips Among Foreign Nationals," USA Today, April 14, 2005, *available at* http://usatoday30.usatoday.com/news/nation/2005-04-14-foreign-recruits_x.htm, *accessed* April 4, 2017.

field, with international students making up over 30 percent of the post-baccalaureate degrees in STEM fields. This finding is even more notable when looking at degrees in mathematics and statistics, where 46.3 and 49.2 percent of Master's and Doctor's degrees, respectively, were earned by non-residents.

Table VI.5
Degrees Conferred by Postsecondary Institutions by Field of Study and Native Status
2013/14 School Year

	Total Number	Non-resident Share
Bachelor's Degrees		
All Fields	1,869,814	3.71%
STEM Fields[1]	577,955	4.86%
Mathematics and Statistics	20,980	11.62%
Master's Degrees		
All Fields	754,475	13.75%
STEM Fields[1]	145,561	30.64%
Mathematics and Statistics	7,273	46.32%
Doctor's Degree		
All Fields	177,580	11.94%
STEM Fields[1]	38,388	36.10%
Mathematics and Statistics	1,863	49.17%

Note: STEM fields include fields classified as biological and biomedical studies; computer and information sciences; engineering; engineering technologies and engineering-related fields; mathematics and statistics; physical science technologies; psychology; and social sciences.

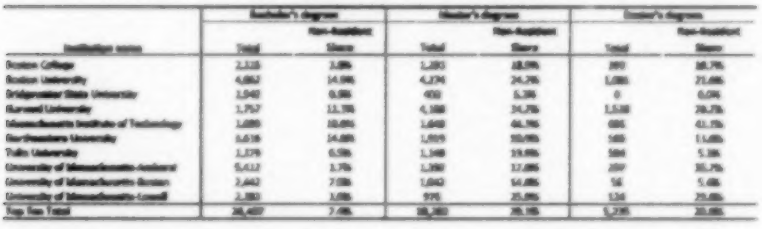
Source: U.S. Department of Education, National Center for Education Statistics, Integrated

Postsecondary Education Data System, Fall 2014, Completions component, prepared September 2015, *available at* https://nces.ed.gov/programs/digest/, *accessed* April 4, 2017.

ii. Impact of Degrees Conferred in Massachusetts

- As shown in **Table VI.6**, non-residents make up an even higher share of the degrees conferred in Massachusetts. For example, 7.4 percent of Bachelor's degrees, 29.1 percent of Master's degrees, and 20.8 percent of Doctor's degrees at the ten largest four-year institutions in Massachusetts were earned by non-residents.
- The share is even more pronounced at certain institutions. For example, 44.3 percent of Master's degrees and 41.1 percent of Doctor's degrees earned from Massachusetts Institute of Technology are earned by non-residents.

Table VI.6
Degrees Conferred at Ten Largest Four-Year Institutions in Massachusetts
2014/15 School Year



Source: Institute of Education Sciences, National Center for Education Statistics, *available at*

https://nces.ed.gov/ipeds/datacenter/login.aspx?gotoReportId=5, *accessed* April 4, 2017.

iii. Economic Benefits of International Students

- International students make up a significant portion of the student body at several leading universities, e.g. NYU (25%), USC (24%), Columbia (32%), Carnegie Mellon (40%), Cornell (21%), and Harvard (22%).[180] In total, 1.044 million international students were enrolled in U.S. institutions during the 2015/16 school year.[181]
- International students also bring foreign money into the United States in the form of college enrollment expenses, including tuition and living expenses. During the 2015/16 school year, of the 427,313 international undergraduate students, 81.2 percent relied primarily on personal and family funds to pay for their studies. During the same year, 57.6 percent of the

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[180] Institute of Education Sciences, National Center for Education Statistics, *available at* https://nces.ed.gov/ipeds/datacenter/login.aspx?gotoReportId=5, *accessed* April 4, 2017.

[181] Institute of International Education, Open Doors Data, *available at* https://www.iie.org/Research-and-Insights/Open-Doors/Data/International-Students/Enrollment-by-Institutional-Type, *accessed* April 4, 2017.

383,935 international graduate students also relied on personal and family funds.[182]

- NAFSA, a nonprofit association dedicated to international education, estimated that international students during the 2015/16 school year contributed $32.8 billion to the U.S. economy and supported more than 400,000 jobs.[183] In Massachusetts specifically, 59,436 international students contributed $2.3 billion and supported over

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[182] Institute of International Education, Open Doors Data, *available at* https://www.iie.org/Research-and-Insights/Open-Doors/Data/International-Students/Primary-Source-of-Funding/2015-16, *accessed* April 4, 2017.

[183] NAFSA International Student Economic Value Tool, *available at* http://nafsa.org/economicvalue, *accessed* April 4, 2017. The economic value from international students studying in the U.S. is calculated as the expenses of enrollment (e.g., tuition and fees and room and board) plus living expenses for dependents minus any U.S. support given to the students. The number of jobs created equals the number of direct and indirect jobs created by the dollars brought into the U.S. by international students. Direct jobs are calculated as the economic value divided by the amount of dollars needed to support one U.S. job. Indirect jobs are jobs that are created and/or supported indirectly from the direct job's existence. This is a multiplier effect in which the spending from a directly-supported job will help to indirectly create and/or support other jobs in the workplace. Baumgartner, Jason, "The Economic Value of International Student Enrollment to the U.S. Economy," NAFSA, November 2016, *available at* https://istart.iu.edu/nafsa/files/docs/Methodology_Economic_Impact_2016_FINAL.pdf, *accessed* April 4, 2017.

31,500 jobs during the 2015/16 school year.[184]

VII. AWARDS

The contribution of immigrants to the American society and economic growth is significant. Through immigration, the United States has been the beneficiary of world-class talent and groundbreaking research, particularly in science, technology, engineering, and mathematics (STEM) fields. The talents and achievements of immigrants to the U.S. and the massive contributions they have made to

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[184] NAFSA International Student Economic Value Tool, ***available at*** http://www.nafsa.org/Policy_and_Advocacy/Policy_Resources/Policy_Trends_and_Data/NAFSA_International_Student_Economic_Value_Tool/#stateData, *accessed* April 4, 2017. The economic value from international students studying in the U.S. is calculated as the expenses of enrollment (e.g., tuition and fees and room and board) plus living expenses for dependents minus any U.S. support given to the students. The number of jobs created equals the number of direct and indirect jobs created by the dollars brought into the U.S. by international students. Direct jobs are calculated as the economic value divided by the amount of dollars needed to support one U.S. job. Indirect jobs are jobs that are created and/or supported indirectly from the direct job's existence. This is a multiplier effect in which the spending from a directly-supported job will help to indirectly create and/or support other jobs in the workplace. Baumgartner, Jason, "The Economic Value of International Student Enrollment to the U.S. Economy," NAFSA, November 2016, ***available at*** https://istart.iu.edu/nafsa/files/docs/Methodology_Economic_Impact_2016_FINAL.pdf, *accessed* April 4, 2017.

America and the world are evinced in the international and national recognitions immigrants have received.

KEY TAKEAWAYS

- **40 percent of the Nobel Prizes won by Americans in Chemistry, Medicine and Physics since 2000 were awarded to immigrants. In 2016, all six American winners of the Nobel Prize in economics and scientific fields were foreign-born.**
- **Most Nobel Prizes earned by foreign-born scientists were awarded only after the Immigration and Nationality Act was passed in 1965, which eliminated discriminatory national origin quotas and increased employment-based green cards. Between 1901 and 1959, immigrants won 25 Nobel Prizes in Chemistry, Medicine and Physics, but won 79 prizes in these fields – more than three times as many – between 1960 and 2016.**
- **From 2010 to 2015, four out of eight U.S. Turing Award recipients were first or second generation immigrants.**
- **Since beginning in 1936, 63 percent of Fields Medal recipients affiliated with a United States research institution has been foreign born. Since 2002, *all* Fields Medal recipients affiliated with a U.S. research institution were foreign-born.**
- **40 percent of National Medal of Science recipients in Mathematics or Computer Science are foreign-born.**

- **42 percent of the researchers at the top seven U.S. cancer research centers are foreign-born.**
- **83 percent (33 of 40) of the finalists of the 2016 Intel Science Talent Search, the leading science competition for U.S. high school students, were the children of immigrants, and 75 percent of the finalists had parents who worked in America on H-1B visas.**

A. The Nobel Prize

"Immigrants have been awarded 40 percent, or 31 of 78, of the Nobel Prizes won by Americans in Chemistry, Medicine and Physics since 2000. In 2016, all 6 American winners of the Nobel Prize in economics and scientific fields were immigrants."[185]

Table VII.1
American Nobel Prize Winners in Chemistry, Medicine and Physics by Nativity Status
2000 – 2016

Field	Foreign-Born	Native-Born	Foreign-Born %
Chemistry	10	18	35.7%
Medicine	10	13	43.5%
Physics	11	16	40.7%
All Three Fields	31	47	39.7%

[185] National Foundation for American Policy, "Immigrants and Nobel Prizes," *NFAP Policy Brief*, October 2016, *available at* http://nfap.com/wp-content/uploads/2016/10/Immigrants-and-Nobel-Prizes.NFAP-Policy-Brief.October-2016.pdf, *accessed* February 21, 2017.

Source: National Foundation for American Policy, "Immigrants and Nobel Prizes", NFAP Policy Brief, October 2016, ***available at*** http://nfap.com/wp-content/uploads/2016/10/Immigrants-and-Nobel-Prizes.NFAP-Policy-Brief.October-2016.pdf, *accessed* March 26, 2017.

- "One can see the increasing influence and importance of immigrants on science in America over the past half century. Between 1901 and 1959, immigrants won 25 Nobel Prizes in Chemistry, Medicine and Physics, but won 79 prizes in these fields – more than three times as many – between 1960 and 2016."[186]
- "Most Nobel Prizes earned by foreign-born scientists were awarded only after the Immigration and Nationality Act was passed in 1965, which eliminated discriminatory national origin quotas and increased employment-based green cards."[187]

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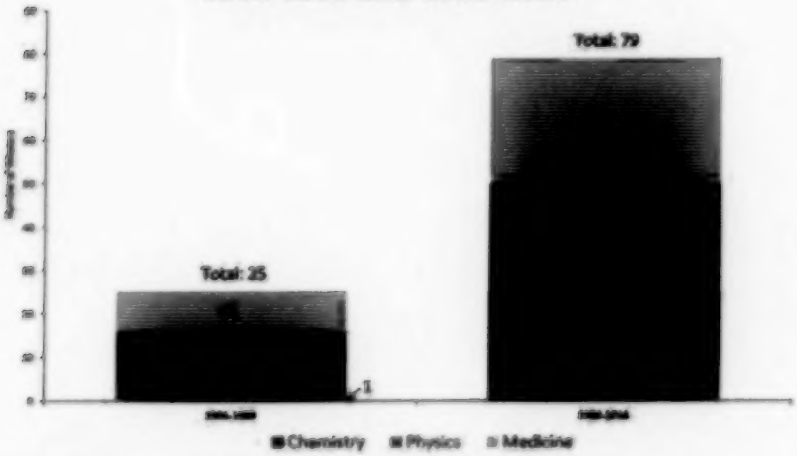
[186] National Foundation for American Policy, "Immigrants and Nobel Prizes," *NFAP Policy Brief*, October 2016, ***available at*** http://nfap.com/wp-content/uploads/2016/10/Immigrants-and-Nobel-Prizes.NFAP-Policy-Brief.October-2016.pdf, *accessed* February 21, 2017.

[187] Vilcek Foundation, "Immigrant Nation, American Success: Achievements in STEM," ***available at*** http://www.vilcek.org/news/current-news/past-news/immigrant-nation-american-success-achievements-in-stem.html, *accessed* February, 21, 2017.

Figure VII.1
American Foreign-Born Nobel Prize Winners in Chemistry, Medicine and Physics
1901-1959 and 1960-2016



Source: National Foundation for American Policy, "Immigrants and Nobel Prizes", NFAP Policy Brief, October 2016, *available at* http://nfap.com/wp-content/uploads/2016/10/Immigrants-and-Nobel-Prizes.NFAP-Policy-Brief.October-2016.pdf, *accessed* March 26, 2017.

i. Nobel Laureates Affiliated with Universities in Massachusetts

- 37 percent of Nobel Prize winners who have been affiliated with (i.e., current or former full-time or visiting faculty or staff and alumni) the Massachusetts Institute of Technology are foreign-born.[188]

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[188] MIT, "Nobel Prize," available at http://web.mit.edu/ir/pop/awards/nobel.html, *accessed*

- 32 percent of Nobel Prize winners who are current faculty or alumni of Harvard University are foreign-born.[189]
- 75 percent of Nobel Prize winners who have been affiliated with Boston University are foreign-born.[190]

B. MacArthur Fellowship

- The MacArthur Fellowship is awarded to support individuals who have shown "exceptional creativity in their work and the prospect for still more in the future" across a wide range of fields, including the sciences, arts, and social sciences.[191]
- Each year, between 20 and 25 Fellows are selected to receive a $625,000 grant paid over

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March 24, 2017; place of birth from biographies at Nobelprize.org, "Nobel Prize Facts," *available at* https://www.nobelprize.org/nobel_prizes/facts/, *accessed* March 24, 2017.

189 Harvard University, "Nobel Laureates," *available at* http://www.harvard.edu/about-harvard/harvard-glance/honors/nobel-laureates, *accessed* March 24, 2017.

190 Boston University, "Nobel Laureates," *available at* https://www.bu.edu/provost/awards-publications/faculty-achievement/national-awards-and-distinctions/nobel-laureates/, *accessed* March 24, 2017, and "List of Nobel Laureates by University Affiliation," *available at* https://en.wikipedia.org/wiki/List_of_Nobel_laureates_by_university_affiliation *accessed* March 24, 2017.

191 MacArthur Foundation, "MacArthur Fellows," 2017, *available at* https://www.macfound.org/programs/fellows/strategy/, *accessed* March 20, 2017.

five years, with no strings attached.[192,193] Fellows are selected on the criteria of being:

- On the precipice of great discovery or innovation;
- Financially limited from the fulfillment of their discovery or innovation; and
- A resident or a citizen of the United States, not holding elective office.

- 25 percent of all MacArthur Fellows from 2000 to 2016 were foreign-born.[194] In the same period, 32 percent of the fellows working

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[192] MacArthur Foundation, "Directory of Fellows, 1981-2016," 2017, ***available at*** https://www.macfound.org/media/fellows_pdf/Fellows_1981-2016_Feb_2017.pdf, *accessed* March 18, 2017. The grant amount was increased from $500,000 in 2013.

[193] MacArthur Foundation, "MacArthur Fellows," 2017, ***available at*** https://www.macfound.org/programs/fellows/strategy/, *accessed* March 18, 2017.

[194] MacArthur Foundation, "Directory of Fellows, 1981-2016," 2017, ***available at*** https://www.macfound.org/media/fellows_pdf/Fellows_1981-2016_Feb_2017.pdf, *accessed* March 18, 2017. Foreign-born recipients are defined as individuals who were born outside the United States and its territories to non-American parents. Recipients' birthplaces were identified through Internet research. If the birthplace could not be found, the recipient was assumed to be native-born. Source document for each foreign-born recipient's birthplace is available upon request.

in the STEM fields were foreign-born (see **Figure VII.2** below).

- Three fellows are from countries banned in the executive order:[195]
  - 2003: Nawal M. Nour (born in Sudan), obstetrician and gynecologist
  - 2013: Dina Katabi (born in Syria), computer scientist
  - 2014: Khaled Mattawa (born in Libya), a translator and poet

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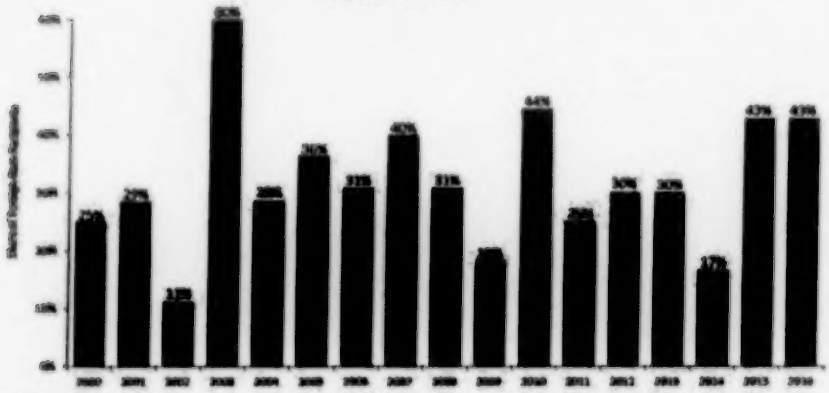
[195] MacArthur Foundation, "Creativity on the Move - International," 2016, ***available at*** https://www.macfound.org/maps/3/#, *accessed* March 20, 2017.

Figure VII.2
Share of Foreign-Born among MacArthur Fellowship Recipients in STEM Fields
2000-2016



Notes:
[1] Foreign-born recipients are defined as individuals who were born outside the United States and its territories to non-American parents.
[2] Recipients' birthplaces were identified through Internet research. If the birthplace could not be found, the recipient was assumed to be native-born.

Sources:
[1] MacArthur Foundation, "Directory of Fellows, 1981-2016," February 2017, *available at* https://www.macfound.org/media/fellows_pdf/Fellows_1981-2016_Feb_2017.pdf, *accessed* March 18, 2017.
[2] Source documents for each foreign-born recipient's birthplace are available upon request.

C. Recognitions in Medicine

i. Wolf Prize in Medicine

- The aim of the Wolf Foundation is to award prizes to outstanding scientists and artists –

irrespective of nationality, race, color, religion, sex, or political views – for achievements in the interest of mankind and friendly relations among peoples.[196] Since 1978, prizes in the science field include Agriculture, Chemistry, Mathematics, Medicine, and Physics.[197]

- The Wolf Prize has been considered a significant predictor of the Nobel Prize, with more than a third of its recipients going on to win the Nobel Prize.[198]
- 36.8 percent of all U.S.-affiliated scientists to have won the Wolf Prize are foreign-born. 40 percent of all U.S.-affiliated scientists to have won the Wolf Prize in the last 16 years are foreign-born.[199]

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[196] Wolf Foundation, "About," *available at* http://www.wolffund.org.il/index.php?dir=site&page=content&cs=3000&language=eng, *accessed* March 30, 2017.

[197] Wolf Foundation, "Prizes," *available at* http://www.wolffund.org.il/index.php?dir=site&page=content&cs=3020, *accessed* March 30, 2017.

[198] Judy Siegel-Itzkovich, "Wolf Prizes in the Sciences and Arts Presented to Nine North Americans," January 29, 2015, *available at* http://www.jpost.com/Israel-News/Health/Wolf-Prizes-in-the-sciences-and-arts-presented-to-nine-North-Americans-389466, *accessed* March 30, 2017.

[199] Wolf Foundation, "About," *available at* http://www.wolffund.org.il/index.php?dir=site&page=content&cs=3000&language=eng, *accessed* March 30, 2017. Foreign-born recipients are defined as individuals who were born outside the United States and its territories. Recipients' birthplaces were identified through Internet research. If the birthplace could not be found, the recipient was assumed to be native-born. Source document for each

ii. Top Cancer Researchers

- "The researchers at the top 7 cancer centers come from more than 50 countries. Among the 56 countries, the leading country of origin for cancer researchers is China, followed, in order, by India, Germany, Canada, the United Kingdom, Italy, Russia, Lebanon, South Korea, France, Japan, Israel, Australia, Greece, Spain, Brazil, Taiwan and Argentina. Researchers from China account for 21 percent of the foreign-born cancer researchers at the 7 centers (and 8 percent of all cancer researchers at the 7 centers). India was the country of origin for 10 percent of the foreign-born researchers, followed by Germany and Canada at 7 percent, and the United Kingdom at 6 percent."[200]
- Overall, 42 percent of the researchers at the top 7 cancer research centers are foreign-born, whereas only 13 percent of the U.S population is foreign-born.[201]

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foreign-born recipient's birthplace is available upon request.

[200] Anderson, Stuart, "The Contributions of Immigrant to Cancer Research in America," *NFAP Policy Brief*, February 2013, ***available at*** http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2013/03/nfap_contributions_immigrants_to_cancer_research.pdf, *accessed* March 31, 2017.

[201] Anderson, Stuart, "Immigrant Scientists Invaluable to the United States," ***Frontlines***, May/June 2015, ***available*** at https://www.nafsa.org/_/File/_/ie_mayjun15_front_lines.pdf, *accessed* March 31, 2017.

Table VII.2
Share of Foreign-Born Cancer Researchers at America's Top Cancer Centers
2010

Cancer Research Center	% of Cancer Researchers Who are Foreign-Born
University of Texas MD Anderson Cancer Center	62%
Memorial Sloan-Kettering Cancer Center	50%
Fox Chase Cancer Center	44%
Johns Hopkins Sidney Kimmel Comprehensive Cancer Center	35%
Dana-Farber Cancer Institute	33%
UCSF Helen Diller Family Comprehensive Cancer Center	32%
Fred Hutchinson Cancer Research Center	30%

Note: The author conducted an analysis of 1,500 biographies of cancer researchers on staff at the seven comprehensive cancer centers that received the highest amount of P30 grants from the National Cancer Institute in 2010 based on cancer center website research and direct interviews with individual researchers and cancer center staff.

Source: Anderson, Stuart, "Immigrant Scientists Invaluable to the United States," *Frontlines*, May/June 2015, *available at* https://www.nafsa.org/_/File/_/ie_mayjun15_front_lines.pdf, *accessed* March 27, 2017.

iii. Howard Hughes Investigators

- The Investigator Program at the Howard Hughes Medical Institute provides long-term funding for researchers in biomedical science. In 2015, at least 12 of the 26 appointed investigators (46 percent) were foreign-born.[202]

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[202] The Vilcek Foundation, "Immigration Nation, American Success: Achievements in Stem," *available at*

D. Other Prizes in STEM

i. Fields Medal

- The Fields Medal is regarded as "mathematics' closest analog to the Nobel Prize."[203] It is awarded every four years by the International Mathematical Union to one to four recipients under the age of 40.[204]
- Since its inception in 1936, 63 percent of Fields Medal recipients affiliated with a United States research institution have been foreign-born.[205] Moreover, since 2002, all Fields Medal recipients affiliated with a U.S. research institution were foreign-born.[206]

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http://www.vilcek.org/news/current-news/past-news/immigrant-nation-american-success-achievements-in-stem.html, *accessed* March 27, 2017.

[203] Wolfram MathWorld, "Fields Medal," 2017, *available at* http://mathworld.wolfram.com/FieldsMedal.html, *accessed* March 20, 2017.

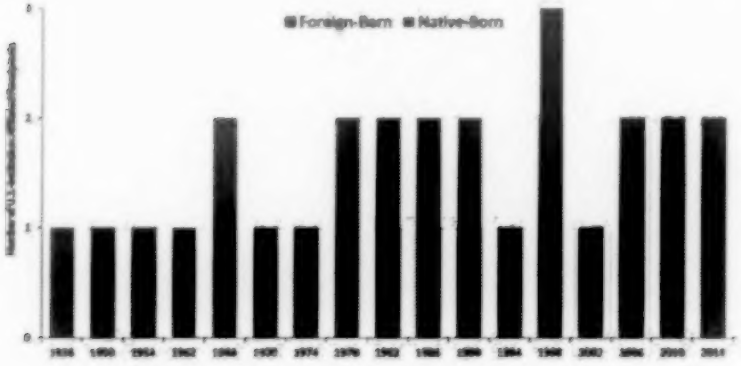
[204] Wolfram MathWorld, "Fields Medal," 2017, *available at* http://mathworld.wolfram.com/FieldsMedal.html, *accessed* March 20, 2017.

[205] "List of Fields Medalists," Math Union, 2014, *available at* http://www.mathunion.org/general/prizes/fields/prizewinners/, *accessed* March 20, 2017. Recipients' birthplaces were identified through Internet research. If the birthplace could not be found, the recipient was assumed to be native-born. Source document for each foreign-born recipient's birthplace is available upon request.

[206] "List of Fields Medalists," Math Union, 2014, *available at* http://www.mathunion.org/general/prizes/fields/prizewinners/, *accessed* March 20, 2017. Recipients' birthplaces were identified through Internet research. If the birthplace could not be found, the recipient was assumed to be native-

- In 2014, Maryam Mirzakhani, born in Iran, became the first woman to be awarded the Fields Medal since its inception in 1936.[207] After two consecutive victories in the International Mathematical Olympiad, she started a Ph.D. program at Harvard University. She is currently a professor of mathematics at Stanford University.[208]

Figure VII.3
Number of Fields Medalists Affiliated with a U.S. Institution at the Time of the Award
2000-2016



born. Source document for each foreign-born recipient's birthplace is available upon request.

[207] Carey, Bjorn, "Stanford's Maryam Mirzakhani Wins Fields Medal," August 12, 2014, *available at* http://news.stanford.edu/news/2014/august/fields-medal-mirzakhani-081214.html, *accessed* March 20, 2017.

[208] Carey, Bjorn, "Stanford's Maryam Mirzakhani Wins Fields Medal," August 12, 2014, *available at* http://news.stanford.edu/news/2014/august/fields-medal-mirzakhani-081214.html, *accessed* March 20, 2017.

Note: Recipients' birthplaces were identified through Internet research.

Sources:
[1] "List of Fields Medalists," Math Union, 2014, *available at* http://www.mathunion.org/general/prizes/fields/prizewinners/, *accessed* March 20, 2017.
[2] Source document for each foreign-born recipient's birthplace is available upon request.

ii. Turing Award

- The A. M. Turing Award recognizes major contributions of lasting importance to computing. It is sometimes referred to as the "Nobel Prize" of Computing.[209]
    - Since the award's creation in 1966, 11 of the 51 U.S. winners (22 percent) have been immigrants, and 14 of the 51 U.S. winners (27 percent) have been first or second generation immigrants.[210]
    - From 2010 to 2015, 4 of the 8 U.S. Turing Award recipients (50%) were first or second generation immigrants.

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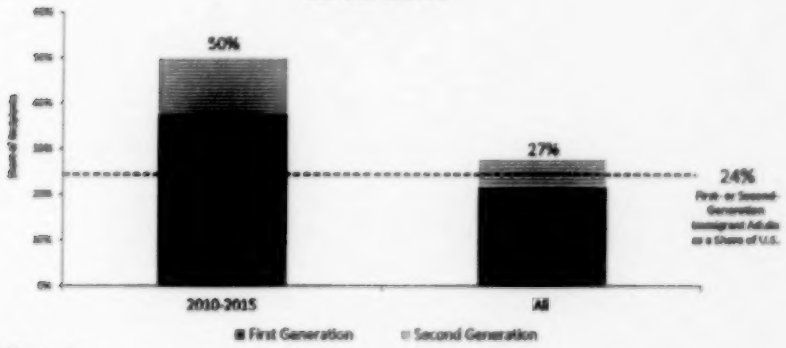
[209] Association for Computing Machinery, "A. M. Turing Award," *available at* http://amturing.acm.org/, *accessed* February 21, 2017.

[210] Complete list of Turing Award winners is *available at* http://amturing.acm.org/alphabetical.cfm, *accessed* February 21, 2017. Data on award winners' country of birth are available on each winner's Turing Award profile.

Figure VII.4
Share of Turing Award Recipients by Immigrant Generation
1966-2015



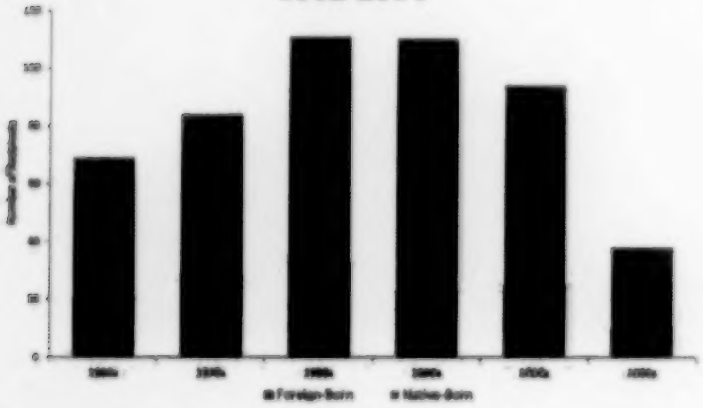
Notes:
[1] First-Generation immigrants are people born outside the United States and its surrounding territories to parents neither of whom was a U.S. citizen.
[2] Second-Generation immigrants are people born in the United States or its surrounding territories, with at least one first-generation parent.
[3] Recipients' parents whose birthplace could not be identified were assumed to have been born in the U.S.

Sources:
[1] A.M. Turing Award, "Alphabetical Listing of A.M. Turing Award Winners," *available at* http://amturing.acm.org/alphabetical.cfm, *accessed* March 20, 2017.
[2] A.M. Turing award winner profiles for each recipient, *available at* http://amturing.acm.org, *accessed* March 20, 2017.

iii. National Medal of Science

- The President's National Medal of Science was established in 1959 as the President's Award to individuals "deserving of special recognition by reason of their outstanding contributions to knowledge in the physical, biological, mathematical, or engineering sciences."[211] Successful candidates must be U.S. citizens or permanent residents who are applying for U.S. citizenship.[212]

Figure VII.5
National Medal of Science Recipients by Nativity Status
1962-2014



[211] National Science Foundation, "National Medal of Science," *available at* https://www.nsf.gov/od/nms/medal.jsp, *accessed* March 24, 2017.

[212] National Science Foundation, "Medal of Science Fact Sheet," *available at* https://www.nsf.gov/news/news_summ.jsp?cntn_id=100684, *accessed* March 24, 2017.

Sources:
[1] National Science Foundation, "The President's National Medal of Science," ***available at*** https://www.nsf.gov/od/nms/results.jsp, *accessed* March 27, 2017.
[2] Recipient birthplaces were identified from their biographies available from National Science & Technology Medals Foundation, "Laureates," ***available at*** https://www.nationalmedals.org/laureates, *accessed* March 27, 2017.

- Of the 506 recipients of the National Medal of Science, 28 percent were foreign-born.[213] More granularly,
    - 41 percent of recipients in Mathematics or Computer Science were foreign-born;
    - 33 percent of recipients in Physics and Engineering were foreign-born;
    - 24 percent of recipients in Biology were foreign-born;
    - 13 percent of recipients in Chemistry were foreign-born; and
    - 13 percent of recipients in Behavioral and Social Science were foreign-born.

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[213] National Science & Technology Medals Foundation, "Laureates," 2017, ***available at*** https://www.nationalmedals.org/laureates/, *accessed* March 24, 2017.

iv. Intel Science Talent Search

- "The Intel Science Talent Search (Intel STS) is the nation's most prestigious pre-college science competition. Intel STS alumni have made extraordinary contributions to science and hold more than 100 of the world's most coveted science and math honors, including the Nobel Prize and the National Medal of Science. Students are selected based upon their scientific research and also on their overall potential as future leaders of the scientific community."[214]
- Each year, Intel STS recognizes 300 students as semifinalists. From that pool, 40 finalists are invited to Washington D.C. to compete for the top prizes.[215]
- "Previously known as the Westinghouse Science Talent Search or the 'Junior Nobel Prize,' more than 95 percent of winners of the Intel Science Talent Search (STS) traditionally have pursued science as a career, with 70 percent earning Ph.D.'s or M.D.'s."[216]

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214 Student Science, "Intel STS 2016 Finalists," 2015, *available at* https://student.societyforscience.org/intel-sts-2016-finalists, *accessed* March 20, 2017.

215 Student Science, "Intel STS 2016 Finalists," 2015, *available at* https://student.societyforscience.org/intel-sts-2016-finalists, *accessed* March 20, 2017.

216 Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, *available at* http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-

- A review of the finalists of Intel STS shows that children of immigrants are a "vital part of America's future in science and mathematics."[217]
    - "83 percent (33 of 40) of the finalists of the 2016 Intel Science Talent Search, the leading science competition for U.S. high school students, were the children of immigrants."[218]
    - "Moreover, 75 percent – 30 out of 40 – of the finalists had parents who worked in America on H-1B visas. That compares to 7 children who had both parents born in the United States."[219]

Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 3.

[217] Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, ***available at*** http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 3. Research was conducted by the author through interviews with the finalists and their parents.

[218] Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, ***available at*** http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 1.

[219] Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, ***available at*** http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-

- "Parents who were international students were also more likely to have a child as a finalist than native-born parents. A total of 27 of the 40 children – 68 percent – had a parent who came to America as an international student."[220]
- "At the 2016 Intel Science Talent Search, 7 of the 9 top awards were earned by the children of immigrants, including first place prizes for innovation and basic research."[221]

- The share of finalists with foreign-born parent(s) has been increasing over time. As shown in **Figure VII.6** below, in 2004, 60 percent (24 of 40) of the finalists had at least one foreign-born parent. In 2011, 70 (28 of 40) percent had at least one foreign-born parent,

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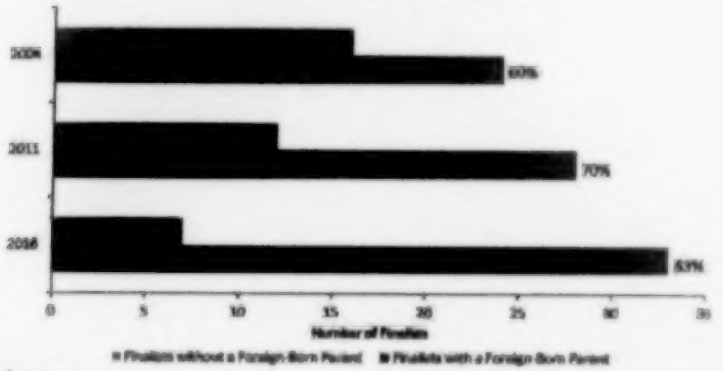
Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 1.

[220] Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, ***available at*** http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 1.

[221] Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, ***available at*** http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 2.

and in 2016, 83 percent (33 out of 40) of the finalists had at least one foreign-born parent.

Figure VII.6
Intel Science Talent Search Finalists by Nativity Status of Parents
2004, 2011, and 2016



Notes:
[1] If a finalist had at least one parent who was born outside the U.S. and its territories, then he/she is defined as a "finalist with a foreign-born parent."
[2] The data are based on interviews with finalists and their parents by the National Foundation for American Policy.

Source: Anderson, Stuart, "The Contributions of the Children of Immigrants to Science in America," *NFAP Policy Brief*, March 2017, *available at* http://nfap.com/wp-content/uploads/2017/03/Children-of-Immigrants-in-Science.NFAP-Policy-Brief.March-2017.pdf, *accessed* March 20, 2017, p. 5.

v. Breakthrough Prize

The Breakthrough Prize was founded by Silicon Valley entrepreneurs to honor and to support

"important, primarily recent, achievements in the categories of Fundamental Physics, Life Sciences, and Mathematics."[222] The first prizes were awarded in 2012 in Fundamental Physics; prizes in Life Sciences and Mathematics began in 2013 and 2015, respectively.[223] Laureates receive $3 million each in prize money.[224]

- As shown in **Figure VII.7** below, 43 percent of Breakthrough Prize winners who were affiliated with a U.S. institution at the time of the award were foreign-born. In Fundamental Physics, 60 percent of the U.S.-affiliated

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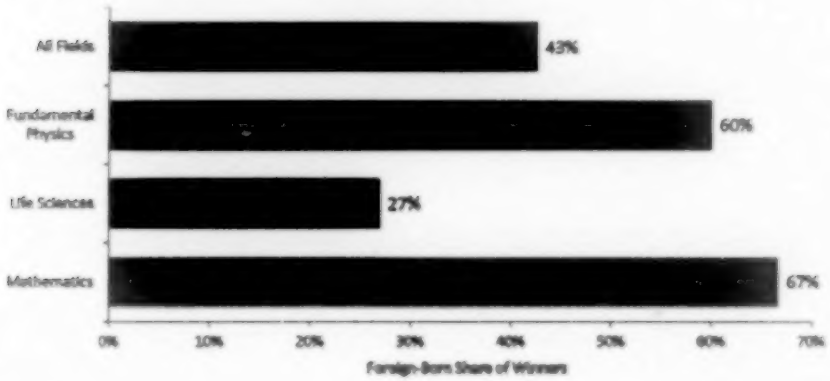
[222] "About," Breakthroughprize.org, 2017, *available at* https://breakthroughprize.org/About, *accessed* March 20, 2017.

[223] "Breakthrough Prizes Laureates 2012-2017," Breakthroughprize.org, 2017, *available at* https://breakthroughprize.org/Laureates/3/P1/Y2015, https://breakthroughprize.org/Laureates/3/P1/Y2016, https://breakthroughprize.org/Laureates/3/P1/Y2017, https://breakthroughprize.org/Laureates/2/P1/Y2013, https://breakthroughprize.org/Laureates/2/P1/Y2014, https://breakthroughprize.org/Laureates/2/P1/Y2015, https://breakthroughprize.org/Laureates/2/P1/Y2016, https://breakthroughprize.org/Laureates/2/P1/Y2017, https://breakthroughprize.org/Laureates/1/P1/Y2012, https://breakthroughprize.org/Laureates/1/P1/Y2013, https://breakthroughprize.org/Laureates/1/P1/Y2014, https://breakthroughprize.org/Laureates/1/P1/Y2015, https://breakthroughprize.org/Laureates/1/P1/Y2015, https://breakthroughprize.org/Laureates/1/P1/Y2017, *accessed* March 20, 2017.

[224] "About," Breakthroughprize.org, 2017, *available at* https://breakthroughprize.org/About, *accessed* March 20, 2017.

winners were foreign-born and in Mathematics, 67 percent of the winners were foreign-born.

Figure VII.7
Share of Foreign-Born Breakthrough Prize Winners Affiliated with a U.S. Institution at the Time of the Award
2012-2017



Notes:
[1] Foreign-born recipients are defined as individuals who were born outside the United States and its territories to non-American parents.
[2] Recipients birthplaces were identified Internet research. If birthplace could not be found, the recipient was assumed to be native-born.

Sources:
[1] "Breakthrough Prizes Laureates 2012-2017," Breakthroughprize.org, 2017, *available at* https://breakthroughprize.org/Laureates/3/P1/Y2015, https://breakthroughprize.org/Laureates/3/P1/Y2016, https://breakthroughprize.org/Laureates/3/P1/Y2017, https://breakthroughprize.org/Laureates/2/P1/Y2013, https://breakthroughprize.org/Laureates/2/P1/Y2014,

https://breakthroughprize.org/Laureates/2/P1/Y2015, https://breakthroughprize.org/Laureates/2/P1/Y2016, https://breakthroughprize.org/Laureates/2/P1/Y2017, https://breakthroughprize.org/Laureates/1/P1/Y2012, https://breakthroughprize.org/Laureates/1/P1/Y2013, https://breakthroughprize.org/Laureates/1/P1/Y2014, https://breakthroughprize.org/Laureates/1/P1/Y2015, https://breakthroughprize.org/Laureates/1/P1/Y2015, https://breakthroughprize.org/Laureates/1/P1/Y2017, *accessed* March 20, 2017.

[2] Source document for each foreign-born recipient's birthplace is available upon request.

vi. Simons Investigators

The Simons Foundation selects Investigators working in mathematics, physics, theoretical computer sciences, and mathematical modeling of living systems. Eleven of the sixteen Simons Investigators in 2014 were immigrants living in the U.S.[225]

vii. Blavatnik Awards

The Blavatnik Awards are given in the life sciences, physical sciences, engineering, and chemistry. One out of three winners in 2014 was foreign-born. Six of nine winners and finalists were foreign-born in 2014.[226]

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[225] The Vilcek Foundation, "Immigration Nation, American Success: Achievements in STEM," *available at* http://www.vilcek.org/news/current-news/past-news/immigrant-nation-american-success-achievements-in-stem.html, *accessed* March 11, 2017.

[226] The Vilcek Foundation, "Immigration Nation, American Success: Achievements in STEM," *available at*

E. Membership in the National Academy of Sciences

- "Members are elected to the National Academy of Sciences [NAS] in recognition of their distinguished and continuing achievements in original research. Membership is a widely accepted mark of excellence in science and is considered one of the highest honors that a scientist can receive. U.S. immigrants constitute 29% of current NAS members in applied mathematics, 21% in Biochemistry, 37% in engineering sciences, and 36% in mathematics."[227]

F. Medal of Freedom

- The Presidential Medal of Freedom is an award bestowed by the President of the United States that was established in 1963 by President John F. Kennedy. It replaced the Medal of Freedom previously established by President Harry S. Truman in 1945 to honor civilian service during World War II.[228]

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http://www.vilcek.org/news/current-news/past-news/immigrant-nation-american-success-achievements-in-stem.html, *accessed* March 11, 2017.

227 Hanson, Gordon, H. and Matthew J. Slaughter, "Talent, Immigration, and U.S. Economic Competitiveness," Compete America Coalition, May 2013, ***available at*** https://gps.ucsd.edu/_files/faculty/hanson/hanson_publication_immigration_talent.pdf, *accessed* March 20, 2017, p. 14.

228 National Archives, "Executive Order 9586 – The Medal of Freedom," *available at* https://www.archives.gov/federal-

- It is the nation's highest civilian honor presented to individuals who have made "especially meritorious contributions to the security or national interests of the United States, to world peace, or to cultural or other significant private endeavors."[229]
- Recipients have included individuals who have made significant contributions to wide range of areas, including the arts, business and economics, education, history, humanitarian service, law, media, military service, philanthropy, politics and government, religion, sports, and science and technology.
- As shown in **Figure VII.8** below, foreign-born recipients and second-generation immigrants accounted for 29 percent of all Presidential Medal of Freedom recipients since its inception and 28 percent of recipients in the area of science and technology.[230]
- Between 1990 and 2016, over 29 percent of the recipients in the area of science and technology were foreign-born or second-generation immigrants. As a point of

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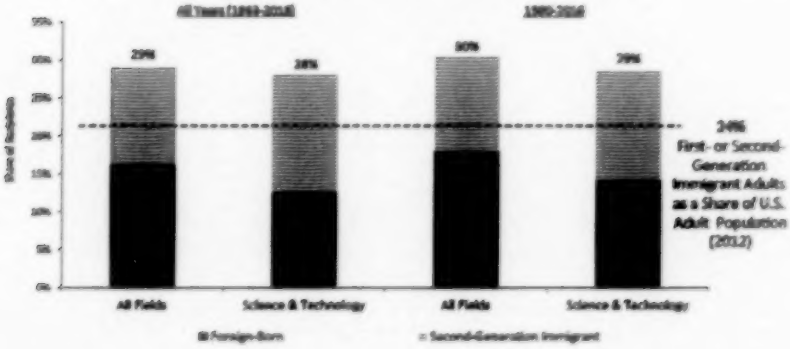
register/codification/executive-order/09586.html, *accessed* March 27, 2017.

[229] Obama White House, "The Presidential Medal of Freedom," 2016, ***available at*** https://obamawhitehouse.archives.gov/campaign/medal-of-freedom, ***accessed*** March 27, 2017.

[230] Science and Technology areas are medicine, science, space exploration, and computing.

reference, in 2012, first- and second-generation immigrants accounted for about 24 percent of the U.S. adult population; this share was even lower in the previous decades in which the medal was awarded.[231]

Figure VII.8
Share of Presidential Medal of Freedom Recipients by Nativity Status
All Years (1963-2016) and 1990-2016



Notes:
[1] Foreign-born recipients are defined as individuals who were born outside the United States and its territories to non-American parents. Second-generation immigrants are defined as individuals born in the United States or its territories with at least one foreign-born parent.

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[231] Pew Research Center, "Second-Generation Americans," February 7, 2013, *available at* http://www.pewsocialtrends.org/2013/02/07/second-generation-americans/, *accessed* March 27, 2017.

[2] Recipients birthplaces were identified Internet research. If birthplace could not be found, the recipient was assumed to be native-born.
[3] Science & technology fields are defined as medicine, science, space exploration, and computing.

Sources:
[1] United States Senate, "Presidential Medal of Freedom Recipients," ***available at*** https://www.senate.gov/pagelayout/reference/two_column_table/Presidential_Medal_of_Freedom_Recipients.htm, ***accessed*** March 27, 2017.
[2] Pew Research Center, "Second-Generation Americans," February 7, 2013, ***available at*** http://www.pewsocialtrends.org/2013/02/07/second-generation-americans/, ***accessed*** March 27, 2017.
[3] Source document for each first- and second-generation immigrant's birthplace and/or parent's birth place is available upon request.

G. The Carnegie Corporation Pride of America Honorees

- "Every July 4th, Carnegie Corporation of New York salutes the legacy of Andrew Carnegie by recognizing an inspiring group of well-known naturalized citizens from all walks of life—the 'Pride of America.'"[232]
- The 2016 honorees include:[233]

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[232] Carnegie Corporation of New York, "About," 2015, ***available at*** http://greatimmigrants.carnegie.org/about/, ***accessed*** March 20, 2017.

[233] Carnegie Corporation of New York, "2016 Great Immigrant Honorees: The Pride of America," June 30, 2016, ***available***

- The President of Johns Hopkins University, the Dean of the Stern School of Business at New York University, and the Provost and Chief Academic Officer of Carnegie Melon University.
- The CEO of Google, the Cofounder of Venmo, the Cofounder and CEO of Whatsapp, the CTO of Uber Technologies, the President and CEO of Sprint, and Chairman of the Americas of McKinsey & Company.
- A former U.S. Secretary of the Interior, a Brigadier General of the U.S. Army, a retired U.S. Army Captain, a Judge in the U.S. Court of Appeals for the 9th Circuit, and two U.S. ambassadors.
- Actors, journalists, scientists, industrialists, entrepreneurs, philanthropists, a Grammy Award-winning singer, an Olympic five-time gold medalist, an artist, a chef, a ballerina, an author, and others.

VIII. IMMIGRATION, CRIME, AND TERRORISM

Contrary to popular belief, studies generally find that immigration may reduce crime rates over time. Empirical data also suggests that immigrants are no more likely to be criminals or to be radicalized than native-born Americans. Regrettably, the prevalence

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at https://www.carnegie.org/news/articles/2016-great-immigrants-pride-america/, *accessed* March 20, 2017.

of this public belief makes immigrants, especially those with Islamic belief, more likely to be the victims of hate crime.

KEY TAKEAWAYS

- **Studies find that immigration does not increase the crime rate. In the long run, immigration decreases the crime rate, especially the violent crime rate.**
- **Academic literature shows that immigrants are less likely to be criminals than U.S. native-born population.**
- **Investigation of the Annual Survey of Jails shows that overall, immigrants account for less than 5 percent of the total inmate population in the surveyed jail detention facilities.**
- **The Profiles of Individual Radicalization in the United States dataset ("PIRUS")[234] shows that**

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[234] Profiles of Individual Radicalization in the United States dataset ("PIRUS") includes a sample of individuals espousing Islamist, far right, far left, or single issue ideologies who have radicalized within the United States to the point of committing ideologically motivated illegal violent or non-violent acts, joining a designated terrorist organization, or associating with an extremist organization whose leader(s) has/have been indicted of an ideologically motivated violent offense. START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-

- **Among the 1,473 crimes reported in this dataset, immigrants account for less than 15 percent of the individuals that were radicalised in the United States.**
- **Individuals from the six countries in the Executive Order account for only 2.3 percent of the individuals that were radicalised in the United States.**

- **UCR Hate Crime Data show that the percentage of total reported hate crimes that have been committed against Muslims in the United States and in Massachusetts spiked after the 9/11 terrorist attacks.**

A. Public Opinion

A large portion of the American population believes that immigration increases crime across the United States. Compared to immigrants of other ethnicities, Latin American and Middle Eastern immigrants are believed to have a greater negative impact on the United States.

- Pew Research Center American Trends Panel Survey (March/April 2015)[235]

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radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

[235] Pew Research Center, "Chapter 4: U.S. Public Has Mixed Views of Immigrants and Immigration," in Modern Immigration Wave Brings 59 Million to U.S., Driving Population Growth and Change Through 2065: Views of

- 50 percent of respondents say that immigrants in the United States are making crime worse nationally. 36 percent of respondents say that immigrants in the United States are making crime worse in their local communities.
- 34 percent of respondents say that immigrants in the United States are making social and moral values worse nationally.
- Only 20 percent of respondents viewed the impact of Middle Eastern immigrants as positive (compared to 26 percent for Latin American immigrants, 44 percent for European immigrants, and 47 percent for Asian immigrants).
- 49 percent of respondents think immigration should be decreased.

- Pew Research Center Survey (September 2014)[236]

Immigration's Impact on U.S. Society Mixed, September 2015, ***available at*** http://www.pewhispanic.org/files/2015/09/2015-09-28_modern-immigration-wave_REPORT.pdf, *accessed* February 22, 2017.

[236] Pew Research Center, "Growing Concern about Rise of Islamic Extremism at Home and Abroad," September 2014, ***available at*** http://www.people-press.org/files/2014/09/9-10-14-Islamic-Extremism-release.pdf, *accessed* February 22, 2017.

- 50 percent of respondents believe that Islam is more likely than other religions to encourage violence among believers (increased from 25 percent in 2002).

- German Marshall Fund (2010)[237]
  - 32 percent believe legal immigrants increase crime.
  - 58 percent believe illegal immigrants increase crime.
- Gallup Poll (June 2007)[238]
  - 58 percent of respondents think immigration is making crime worse.
  - 37 percent of respondents think immigration is making social and moral values worse.
- National Identity Survey by International Social Survey Programme (1995 and 2003)[239]

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[237] Bansak, Cynthia et al., "Frontiers of Immigration Research," in *Economics of Immigration*, Routledge: New York: 2015.

[238] Gallup, "Immigration," ***available at*** http://www.gallup.com/poll/1660/immigration.aspx, ***accessed*** February 22, 2017.

[239] Bianchi, Milo, Paolo Buonanno, and Paolo Pinotti. "Do Immigrants Cause Crime?" *Journal of the European Economic Association* 10(6), 2012: 1318-1347, ***available at*** http://onlinelibrary.wiley.com/doi/10.1111/j.1542-4774.2012.01085.x/full, ***accessed*** March 24, 2017, Figure 1.

- People in OECD countries believe immigrants increase crime rates (~30 percent in the United States).

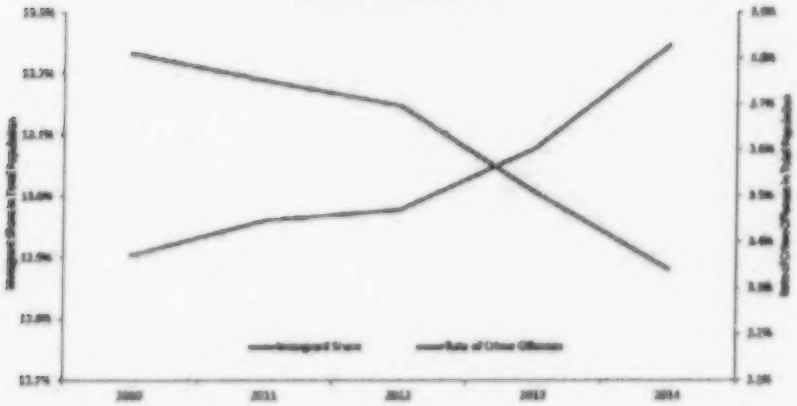
B. Immigration and Crime

i. Existing Research Finds No Impact of Immigration on Increasing Crime

Existing research and empirical evidence show little support of the public belief that immigration increased crime in the United States.

- As illustrated in **Figure VIII.1**, between 2010 and 2014, the increase of the share of immigrants in the total U.S. population coincides with the decreasing trend in the rate of criminal offenses. This relationship is also present at the state level.
- **Figure VIII.2** plots the correlation coefficients between the rate of crime offences and the immigrant share for each state in the United States between 2010 and 2014. A negative correlation coefficient means that an increase in the immigrant share is correlated with a decrease in the crime rate. Among the 51 states, the correlation coefficient is negative for 42 states.

Figure VIII.1
Comparison of the Immigrant Share in the U.S. Population and Rate of Criminal Offenses
2010 – 2014



Sources:
[1] U.S. Department of Justice, Federal Bureau of Investigation, "Uniform Crime Reporting Data: Arrests by Age, Sex, and Race, Summarized Yearly, 2014," Inter-university Consortium for Political and Social Research (distributor), *available at* http://doi.org/10.3886/ICPSR36400.v1.
[2] Brown, Anna, and Renee Stepler, "Statistical Portrait of Hispanics in the United States," 2005-2013 and 2014, *available at* http://www.pewhispanic.org/2016/04/19/statistical-portrait-of-hispanics-in-the-united-states-about-the-data/ and http://www.pewhispanic.org/2016/04/19/statistical-portrait-of-hispanics-in-the-united-states/.

Figure VIII.2
Correlation Coefficients between Rate of Crime Offenses and Immigrant Share in the United States
2010 – 2014

Note: The correlation coefficient is a measure that determines the degree to which two variables' movements are associated. The range of values for the correlation coefficient is -1.0 to 1.0. In particular, a negative correlation coefficient means that an increase in the immigrant share is correlated with a decrease in the crime rate.

Sources:
[1] U.S. Department of Justice, Federal Bureau of Investigation, "Uniform Crime Reporting Data: Arrests by Age, Sex, and Race, Summarized Yearly, 2014," Inter-university Consortium for Political and Social Research (distributor), *available at* http://doi.org/10.3886/ICPSR36400.v1, *accessed* March 24, 2017.
[2] Brown, Anna, and Renee Stepler, "Statistical Portrait of Hispanics in the United States," 2005-2013 and 2014, *available at* http://www.pewhispanic.org/2016/04/19/statistical-portrait-of-hispanics-in-the-united-states-about-the-data/ and

http://www.pewhispanic.org/2016/04/19/statistical-portrait-of-hispanics-in-the-united-states/, *accessed* March 24, 2017.

The academic literature finds that not only is there a lack of a positive relationship between immigration and crime, the empirical evidence generally indicates that immigration might actually reduce crime, especially violent crime, over time. Studies tend to support the observation of one sociologist, who noted, "Cities of concentrated immigration are some of the safest places around." [240] The literature has found:

- "[C]ities with high crime rates tend to have large numbers of immigrants. However, controlling for the demographic characteristics of the cities, recent immigrants appear to have no effect on crime rates."[241]
- "After controlling for a host of demographic and economic characteristics, [...] immigration does not increase crime rates, and some

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[240] Sampson, Robert J., "Rethinking Crime and Immigration," *Contexts* 7(1), Winter 2008: 28-31, ***available at*** https://contexts.org/articles/files/2008/01/contexts_winter08_sampson.pdf, *accessed* March 24, 2017, 30.

[241] Butcher, Kristin F., and Anne Morrison Piehl. "Cross-city Evidence on the Relationship between Immigration and Crime," *Journal of Policy Analysis and Management* 17(2), June 1998: 457-493, ***available at*** http://onlinelibrary.wiley.com/doi/10.1002/(SICI)1520-6688(199822)17:3%3C457::AID-PAM4%3E3.0.CO;2-F/abstract, *accessed* March 24, 2017.

aspects of immigration lessen crime in metropolitan areas."[242]

- "[A] systematic, but small impact of immigration on crime."[243]
- "[C]ities with the largest increases in immigration between 1990 and 2000 experienced the largest decreases in homicide and robbery during the same time."[244]
- "Consistent with the revitalization thesis, results show that the increased size of the foreign-born population reduces lethal violence over time. Specifically, we find that neighborhoods with a larger share of

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242 Reid, Lesley Williams, Harald E. Weiss, Robert M. Adelman, and Charles Jaret. "The Immigration–Crime Relationship: Evidence across US Metropolitan Areas." *Social Science Research* 34(4), March 2005: 757-780, ***available at*** http://www.sciencedirect.com/science/article/pii/S0049089X05000104, *accessed* March 24, 2017, 757.

243 Spenkuch, Jörg L, "Understanding the Impact of Immigration on Crime," *American Law and Economics Review* 16(1), September 2013: 177-219, ***available at*** https://academic.oup.com/aler/article-abstract/16/1/177/135166/Understanding-the-Impact-of-Immigration-on-Crime?redirectedFrom=fulltext, *accessed* March 24, 2017, 177.

244 Wadsworth, Tim, "Is Immigration Responsible for the Crime Drop? An Assessment of the Influence of Immigration on Changes in Violent Crime between 1990 and 2000," *Social Science Quarterly* 91(2), April 2010: 531-533, ***available at*** http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6237.2010.00706.x/abstract, *accessed* March 24, 2017. 533.

immigrants have fewer total, non-Latino White, and Latino homicide victims."[245]

- As a response to President Trump's campaign message, one study tested whether immigrants were responsible for the violent and drug-related crime in the United States. "Data uniformly show no association between immigrant population size and increased violent crime. However, there appears to be a small but significant association between undocumented immigrant populations and drug-related arrests. [...] Results largely contradict the Trump Hypothesis: no evidence links Mexican or undocumented Mexican immigrants specifically to violent or drug-related crime. Undocumented immigrant associations with drug-related crime are minimal, though significant. The Trump Hypothesis consequently appears to be biased toward rhetoric rather than evidence." [246]

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[245] Martinez, Ramiro, Jacob I. Stowell, and Matthew T. Lee, "Immigration and Crime in an Era of Transformation: A Longitudinal Analysis of Homicides in San Diego Neighborhoods, 1980–2000," *Criminology* 48(3), August 2010: 797-829, available at http://onlinelibrary.wiley.com/doi/10.1111/j.1745-9125.2010.00202.x/abstract, *accessed* March 24, 2017, 797.

[246] Green, David, "The Trump Hypothesis: Testing Immigrant Populations as a Determinant of Violent and Drug-Related Crime in the United States," *Social Science Quarterly* 97(3), May 2016: 506-524, *available at* http://onlinelibrary.wiley.com/doi/10.1111/ssqu.12300/abstract, *accessed* March 24, 2017, 506.

- These findings also largely carry over to studies conducted in Canada,[247] the UK,[248] and Italy.[249]

ii. Immigrants Are No More Likely to Be Criminals than Native-Born Individuals

- "No matter how you look at the issue, the inescapable conclusion is that immigrants are, on average, less prone to criminality than the U.S. native-born population."[250]

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247 Zhang, Haimin, "Immigration and Crime: Evidence from Canada," *CLSRN Working Paper*, April 2014 *available at* http://www.clsrn.econ.ubc.ca/workingpapers/CLSRN%20Working%20Paper%20no.%20135%20-%20Zhang.pdf, *accessed* March 24, 2017.

248 Bell, Brian, Francesco Fasani, and Stephen Machin, "Crime and Immigration: Evidence from Large Immigrant Waves," *Review of Economics and Statistics* 95(4), 2013: 1278-1290, a*vailable at* http://eprints.lse.ac.uk/59323/1/CEP_Bell_Fasani_Machin_Crime-and-immigration_2013.pdf, *accessed* March 24, 2017.

249 Bianchi, Milo, Paolo Buonanno, and Paolo Pinotti. "Do Immigrants Cause Crime?" *Journal of the European Economic Association* 10(6), 2012: 1318-1347, *available at* http://onlinelibrary.wiley.com/doi/10.1111/j.1542-4774.2012.01085.x/full, *accessed* March 24, 2017.

250 Ewing, Walter A., Daniel E. Martínez, and Rubén G. Rumbaut, "The Criminalization of Immigration in the United States," *American Immigration Council Special Report*, July 2015: 1-25, *available at* https://www.americanimmigrationcouncil.org/sites/default/files/research/the_criminalization_of_immigration_in_the_united_states.pdf, *accessed* March 24, 2017, 4.

- "According to an original analysis of data from the 2010 American Community Survey (ACS) conducted by the authors of this report, roughly 1.6 percent of immigrant males age 18-39 are incarcerated, compared to 3.3 percent of the native-born. This disparity in incarceration rates has existed for decades, as evidenced by data from the 1980, 1990, and 2000 decennial censuses. In each of those years, the incarceration rates of the native-born were anywhere from two to five times higher than that of immigrants."[251]
- "The 2010 Census data reveals that incarceration rates among the young, less educated Mexican, Salvadoran, and Guatemalan men who make up the bulk of the unauthorized population are significantly lower than the incarceration rate among native-born young men without a high-school diploma. In 2010, less-educated native-born men age 18-39 had an incarceration rate of 10.7 percent—

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[251] Ewing, Walter A., Daniel E. Martínez, and Rubén G. Rumbaut, "The Criminalization of Immigration in the United States," *American Immigration Council Special Report*, July 2015: 1-25, ***available at*** https://www.americanimmigrationcouncil.org/sites/default/files/research/the_criminalization_of_immigration_in_the_united_states.pdf, *accessed* March 24, 2017, 1.

more than triple the 2.8 percent rate among foreign-born Mexican men, and five times greater than the 1.7 percent rate among foreign-born Salvadoran and Guatemalan men."[252]

- For the male population ages 18 to 39 "the incarceration rate of the U.S.-born (3.51 percent) was four times the rate of the foreign-born (0.86 percent). The latter was half the 1.71 percent rate for non-Hispanic white natives, and thirteen times less than the 11.6 percent incarceration rate for native black men. The advantage for immigrants vis-à-vis natives applies to every ethnic group without exception. Almost all of the Asian immigrant groups have lower incarceration rates than the Latin American groups (the exception involves foreign-born Laotians and Cambodians, whose rate of 0.92 percent is still well below that for non-Hispanic white natives)."[253]

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[252] Ewing, Walter A., Daniel E. Martínez, and Rubén G. Rumbaut, "The Criminalization of Immigration in the United States," *American Immigration Council Special Report*, July 2015: 1-25, ***available at*** https://www.americanimmigrationcouncil.org/sites/default/files/research/the_criminalization_of_immigration_in_the_united_states.pdf, *accessed* March 24, 2017, 1-2.

[253] Rumbaut, Rubén G., Roberto G. Gonzales, Golnaz Komaie, Charlie V. Morgan, and Rosaura Tafoya-Estrada, "Immigration and Incarceration: Patterns and Predictors of Imprisonment among First- and Second-Generation Young Adults," *Immigration and Crime: Ethnicity, Race, and Violence*, 2006: 64-89, ***available at***

- "[I]mmigrants are significantly less antisocial despite being more likely to have lower levels of income, less education, and reside in urban areas."[254]
- "[F]irst generation immigrants are less likely to be involved in serious offending and to evidence persistence in offending, and appear to be on a path toward desistance much more quickly than their peers."[255]
- The Investigation of the Annual Survey of Jails[256] shows that, among most of the jail detention facilities, immigrants constitute

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https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2631709, *accessed* March 24, 2017, 64.

254 Vaughn, Michael G., Christopher P. Salas-Wright, Matt DeLisi, and Brandy R. Maynard, "The Immigrant Paradox: Immigrants are Less Antisocial than Native-born Americans," *Social Psychiatry and Psychiatric Epidemiology* 49(7), 2014:1129-1137, *available* at https://link.springer.com/article/10.1007%2Fs00127-013-0799-3, *accessed* March 24, 2017.

255 Bersani, Bianca E., Thomas A. Loughran, and Alex R. Piquero, "Comparing Patterns and Predictors of Immigrant Offending among a Sample of Adjudicated Youth," *Journal of Youth and Adolescence* 43(11), 2014: 1914-1933, *available* at https://link.springer.com/article/10.1007%2Fs10964-013-0045-z, *accessed* March 24, 2017.

256 The Annual Survey of Jails gathered data from a nationally representative sample of local jails on jail inmate populations, jail capacity, and related information. U.S. Census Bureau, "Annual Survey of Jails," *available at* https://www.census.gov/econ/overview/go2300.html, *accessed* March 22, 2017.

only a small share of the total inmate population in the majority of the jail detention facilities between 2010 and 2014 (**Table VIII.1**). Over all, immigrants account for less than 5 percent of the total inmate population in the surveyed jail detention facilities.[257] Around 50 percent of these immigrant inmates were likely to be detained due to immigration violation, as oppose to violation of other criminal codes.[258]

Table VIII.1
The Proportion of Non-Citizens within Jail Detention Facilities
2010 – 2014

Proportion of Non-Citizens in Facility	Count of Facilities within Proportion Range	Average ICE Inmates as Proportion of Total in These Facilities
1% or Less	2,577	0.29%
1% to 10%	1,334	1.53%
10% to 25%	314	6.83%
25% to 50%	118	22.32%
50% to 75%	34	39.78%
75% to 100%	32	6.12%

[257] The total inmate population is 2,986,670. Among them, 148,752 of the total inmate population are non-citizens.

[258] Among the 148,752 non-citizen inmates, 73,741 of them have U.S. Immigration and Customs Enforcement flag.

Source: U.S. Census Bureau, "Annual Survey of Jails," *available at* https://www.census.gov/econ/overview/go2300.html, *accessed* March 22, 2017.

- These statistics are consistent with the results of a study by U.S. Government Accountability Office (GAO). Among their study sample, GAO found that "the criminal aliens had an average of 7 arrests, 65 percent were arrested at least once for an immigration offense[.]"[259]
- "[Ruled] out deportation as an important mechanical factor for the observed differences in institutionalization" because "[f]irst, the Anti-Terrorism and Effective Death Penalty Act increased the list of criminal acts for which noncitizens must be detained." And "[s]econd, the speed of removal of deportable aliens may critically affect immigrants' institutionalization rates." [260]
- "[T]he process of migration selects individuals who either have lower criminal propensities or

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[259] U.S. Government Accountability Office, "Criminal Alien Statistics: Information on Incarcerations, Arrests, and Costs," *GAO-11-187*, March 2011: 1-64, *available at* http://www.gao.gov/new.items/d11187.pdf, *accessed* March 24, 2017, 19.

[260] Butcher, Kristin F., and Anne Morrison Piehl. "Why Are Immigrants' Incarceration Rates So Low? Evidence on Selective Immigration, Deterrence, and Deportation," *National Bureau of Economic Research Working Paper No. 13229*, July 2007: 1-28, *available at* http://www.nber.org/papers/w13229.pdf, *accessed* March 24, 2017.

are more responsive to deterrent effects than the average native. Immigrants who were already in the country reduced their relative institutionalization probability over the decades; and the newly arrived immigrants in the 1980s and 1990s seem to be particularly unlikely to be involved in criminal activity, consistent with increasingly positive selection along this dimension." [261]

C. Immigration and Terrorism

i. The Link between Immigration and Terrorism is Unclear

There are fewer studies on the relationship between immigration and terrorism.

- "[I]migrants stemming from terrorist-prone states moving to another country are indeed an important vehicle through which terrorism does diffuse. Having said that, the findings also highlight that migrant inflows per se actually lead to a lower level of terrorist attacks."[262]

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[261] Butcher, Kristin F., and Anne Morrison Piehl. "Why Are Immigrants' Incarceration Rates So Low? Evidence on Selective Immigration, Deterrence, and Deportation," *National Bureau of Economic Research Working Paper No. 13229*, July 2007: 1-28, ***available at*** http://www.nber.org/papers/w13229.pdf, *accessed* March 24, 2017.

[262] Bove, Vincenzo, and Tobias Böhmelt, "Does Immigration Induce Terrorism?" *The Journal of Politics* 78(2), 2016: 572-588, ***available at*** http://www.journals.uchicago.edu/doi/pdfplus/10.1086/684679, *accessed* March 24, 2017.

- "[M]ore migration generally (i.e., when immigration is not necessarily linked to terrorism in the migrants' countries of origin) into a country is associated with a lower level of terrorist attacks."[263]

ii. Immigrants Are No More Likely to Be Radicalized than Native-Born Individuals

Empirical analyses suggest that immigrants are no more likely to be criminals or to be radicalized than native-born individuals.

- The Profiles of Individual Radicalization in the United States dataset ("PIRUS")[264] shows that, among the 1,473 crimes reported in this dataset, immigrants account for less than 15%

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[263] Bove, Vincenzo, and Tobias Böhmelt, "Does Immigration Induce Terrorism?" *The Journal of Politics* 78(2), 2016: 572-588, *available at* http://www.journals.uchicago.edu/doi/pdfplus/10.1086/684679, *accessed* March 24, 2017.

[264] Profiles of Individual Radicalization in the United States dataset ("PIRUS") includes a sample of individuals espousing Islamist, far right, far left, or single issue ideologies who have radicalized within the United States to the point of committing ideologically motivated illegal violent or non-violent acts, joining a designated terrorist organization, or associating with an extremist organization whose leader(s) has/have been indicted of an ideologically motivated violent offense. START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

of the individuals that were radicalized in the United States (**Table VIII.2**).

Table VIII.2
Residency Status of Individuals Radicalized in the United States
1948 – 2004[265]

Residency Status	Number of Individuals	Percent of Total
Born Citizen	1,253	85.06%
Naturalized Citizen	61	4.14%
Legal Permanent Resident	41	2.78%
Temporary Resident	9	0.61%
Undocumented Resident	9	0.61%
Unknown	100	6.79%
Total	1,473	100.00%

Source: START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

- Individuals from the six countries in the Executive Order account for only 2.3% of the

[265] The years during which the 1,473 individuals' activity first came to public attention. START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

individuals that were radicalized in the United States (**Table VIII.3**).

Table VIII.3
Number of Individuals Radicalized in the United States by Country of Origin
U.S. and the Six Countries in the Executive Order
1948 – 2004[266]

Country of Origin	Number of Individuals	Percent of Total
United States	1,253	85.06%
Somalia	25	1.70%
Yemen	5	0.34%
Iran	1	0.07%
Sudan	1	0.07%
Syria	1	0.07%
Libya	0	0.00%
Total	1,473	100.00%

Source: START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

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[266] The years during which the 1,473 individuals' activity first came to public attention. START, "Profiles of Individual Radicalization in the United States (PIRUS)," *available at* http://www.start.umd.edu/publication/profiles-individual-radicalization-united-states-preliminary-findings, *accessed* March 22, 2017.

D. Immigrants Are More Likely to Be the Victims of Hate Crime

The academic research and empirical evidences shows that immigrants do not increase crime rates, nor are they more likely to be criminals or to be radicalized. If anything, the prevalence of negative public belief regarding immigrants, especially those with Islamic belief, makes these immigrants more likely to be the victims of hate crime.

- "Muslim immigrants living in states with the sharpest increase in hate crimes also exhibit: greater chances of marrying within their own ethnic group; higher fertility; lower female labour force participation; and lower English proficiency."[267]
- "Literature prior to 9/11 indicated that the most frequently targeted minority groups that were victims of hate crimes were Blacks, followed by Jews ... Following 9/11, however, there was a significant rise in the number of attacks on individuals who were or perceived to be of Arab and/or Muslim descent."[268]

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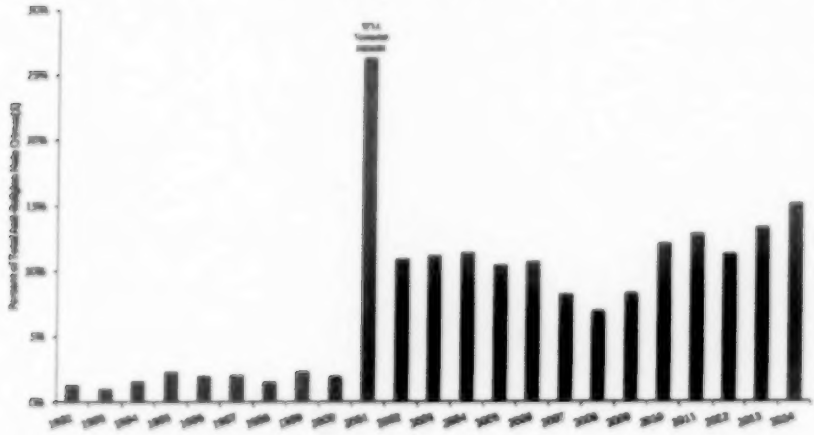
[267] Gould, Eric D., and Esteban F. Klor. "The Long-run Effect of 9/11: Terrorism, Backlash, and the Assimilation of Muslim Immigrants in the West." *The Economic Journal* 126.597 (2016): 2064-2114, *available at* https://scholars.huji.ac.il/sites/default/files/eklor/files/2015_ej.pdf, *accessed* April 3, 2017.

[268] Nelson, Matthew S., et al. "Hate Crimes in Post-9/11 Pennsylvania: Case Characteristics and Police Response Revisited." *Race and Justice* 6.4 (2016): 303-324, *available at* https://www.researchgate.net/profile/Alese_Wooditch/publication/284723886_Hate_Crimes_in_Post-911_Pennsylvania_Case_Characteristics_and_Police_Response_Revisited/links/5657c2ee08ae4988a7b5831b.pdf, *accessed* April 3, 2017.

- "[C]ounties experiencing increases in general hate crime, far-right hate crime, and non-right-wing terrorism see associated increases in far-right hate crime, far-right terrorism, and far-right hate crime, respectively."[269]
- **Figure VIII.3** and **Figure VIII.4** show the percentage of total reported hate crimes that have been committed against Muslims in the United States and in Massachusetts, respectively. There was a noticeable spike after the 9/11 terrorist attacks.

Figure VIII.3
Reported Hate Crimes against Muslims in the United States
1992 - 2014

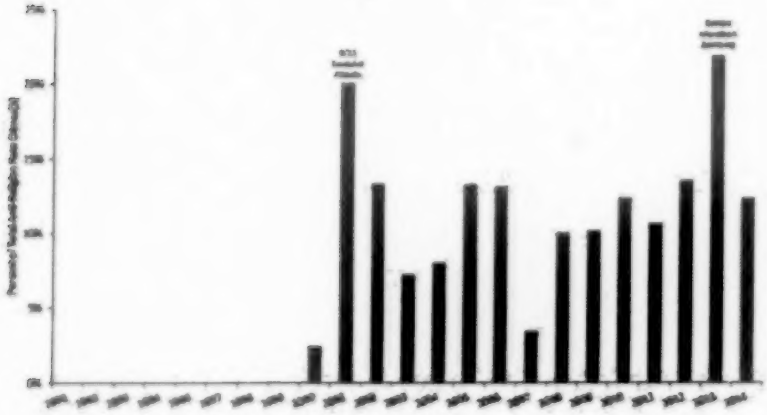


[269] Mills, Colleen E., Joshua D. Freilich, and Steven M. Chermak. "Extreme Hatred Revisiting the Hate Crime and Terrorism Relationship to Determine Whether They Are 'Close Cousins' or 'Distant Relatives'." *Crime & Delinquency* (2015): 0011128715620626, *available at* http://journals.sagepub.com/doi/abs/10.1177/0011128715620626, *accessed* April 3, 2017.

Note: Anti-religous hate crimes include Anti-Jewish, Anti-Catholic, Anti-Protestant, Anti-Other Religions, Anti-Multi Religious, and Anti-Athiesm/Agnosticism incidents.

Source: U.S. Department of Justice, Federal Bureau of Investigation, "Uniform Crime Reporting Program Data: Hate Crime Data," 2014, Inter-university Consortium for Political and Social Research (distributor), *available at* http://doi.org/10.3886/ICPSR36397.v1, *accessed* March 1, 2017.

Figure VIII.4
Reported Hate Crimes against Muslims in the Massachusetts
1992 - 2014



Notes:
[1] Anti-religious hate crimes include Anti-Jewish, Anti-Catholic, Anti-Protestant, Anti-Other Religions, Anti-Multi Religious, and Anti-Atheism/Agnosticism incidents.

[2] There were no reported hate crimes in Massachusetts before 2000.

Source: U.S. Department of Justice, Federal Bureau of Investigation, "Uniform Crime Reporting Program Data: Hate Crime Data," 2014, Inter-university Consortium for Political and Social Research (distributor), *available at* http://doi.org/10.3886/ICPSR36397.v1, *accessed* March 1, 2017.

IX. RHETORIC AND HATE INCIDENTS AGAINST IMMIGRANTS

KEY TAKEAWAYS

- **In the ten days following the election, Southern Poverty Law Center ("SPLC") recorded 867 hate incidents, not including instances of online harassment. The number of incidents recorded peaked on November 9th, the day following the election.**
- **SPLC reports that between 2015 and 2016, the number of hate groups in the U.S. increased from 892 to 917, an increase of 3 percent. In the same one year period, the number of anti-Muslim hate groups increased 197 percent - from 34 groups in 2015 to 101 in 2016.**
- **According to SPLC's online survey of over 10,000 K-12 educators:**
    - **"Nine out of 10 educators who responded have seen a negative impact on students' mood and behavior following the election; most of them worry about the continuing impact for the remainder of the school year."**

- "Eight in 10 report heightened anxiety on the part of marginalized students, including immigrants, Muslims, African Americans and LGBT students."
- "Four in 10 have heard derogatory language directed at students of color, Muslims, immigrants and people based on gender or sexual orientation."
- "Over 2,500 educators described specific incidents of bigotry and harassment that can be directly traced to election rhetoric. These incidents include graffiti (including swastikas), assaults on students and teachers, property damage, fights and threats of violence.

- An analysis of President Trump's tweets indicates that the number of tweets mentioning "Muslims," "Mexicans," and "immigrants" increased by 219 percent from 2014 to 2015, when he entered the presidential race.

A. Hate Crimes and Bias Incidents

- In the ten days following the election, Southern Poverty Law Center ("SPLC") recorded 867 hate incidents, not including instances of online harassment.[270] The number of incidents recorded

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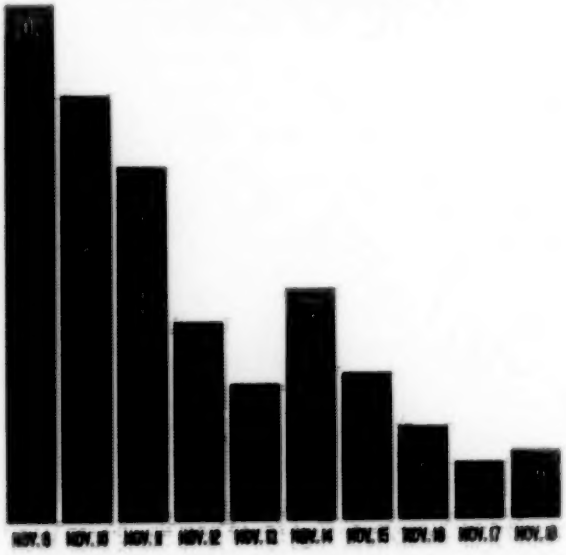
[270] Amend, Alex, Troy Dabney, Cassie Miller, Angbeen Saleem, Will Tucker, and Alexandra Werner-Winslow, "Ten Days

peaked on November 9th, the day following the election.[271]

After: Harassment and Intimidation in the Aftermath of the Election," Southern Poverty Law Center, November 29, 2016, ***available at*** https://www.splcenter.org/20161129/ten-days-after-harassment-and-intimidation-aftermath-election, ***accessed*** March 27, 2017.

[271] Amend, Alex, Troy Dabney, Cassie Miller, Angbeen Saleem, Will Tucker, and Alexandra Werner-Winslow, "Ten Days After: Harassment and Intimidation in the Aftermath of the Election," Southern Poverty Law Center, November 29, 2016, ***available at*** https://www.splcenter.org/20161129/ten-days-after-harassment-and-intimidation-aftermath-election, ***accessed*** March 27, 2017.

Figure IX.1[272]
Number of Reported Hate Incidents in the Ten Days Following Election Day



- In the first 34 days following the election, SPLC counted 1,094 hate instances.[273]

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272 Amend, Alex, Troy Dabney, Cassie Miller, Angbeen Saleem, Will Tucker, and Alexandra Werner-Winslow, "Ten Days After: Harassment and Intimidation in the Aftermath of the Election," Southern Poverty Law Center, November 29, 2016, *available at* https://www.splcenter.org/20161129/ten-days-after-harassment-and-intimidation-aftermath-election, *accessed* March 27, 2017.

273 "Update: 1,094 Bias-Related Incidents in the Months Following the Election," Southern Poverty Law Center, December 16, 2016, *available at* https://www.splcenter.org/hatewatch/2016/12/16/update-

- According to the SPLC, 37% of these 1,094 incidents "directly referenced either President-elect Trump, his campaign slogans, or his infamous remarks about sexual assault."[274]
- According to the SPLC, "there was even evidence that Trump's attacks on Muslims during 2015 — when he called for a ban on Muslims entering the U.S., suggested a registry for Muslims already here, and proposed to surveil mosques — had had an effect that early. The FBI reported that anti-Muslim hate crimes went up by 67% in 2015, while other categories rose only slightly."[275]

B. Organized Hate Groups

- The SPLC also noted a spike in the distribution of "white nationalist (47 reports), KKK (7), and anti-Semitic posters and fliers [following the election]. In total, [the SPLC] captured 57 separate incidents with a spike coming on the first Monday following the election."[276]

1094-bias-related-incidents-month-following-election, *accessed* March 27, 2017.

274 "Update: 1,094 Bias-Related Incidents in the Months Following the Election," Southern Poverty Law Center, December 16, 2016, ***available at*** https://www.splcenter.org/hatewatch/2016/12/16/update-1094-bias-related-incidents-month-following-election, *accessed* March 27, 2017.

275 Potok, Mark, "The Trump Effect," Intelligence Report, February 15, 2017, ***available at*** https://www.splcenter.org/fighting-hate/intelligence-report/2017/trump-effect, *accessed* March 27, 2017.

276 "Update: 1,094 Bias-Related Incidents in the Months Following the Election," Southern Poverty Law Center,

- SPLC reports that between 2015 and 2016, the number of hate groups in the U.S. increased from 892 to 917, an increase of 3 percent.[277] In the same one year period, the number of anti-Muslim hate groups increased 197 percent - from 34 groups in 2015 to 101 in 2016.[278]

A study from FiveThirtyEight found a strong overlap between commenters who post in the r/The_Donald subreddit and other "hate-based" discussion pages. Using latent semantic analysis, an approach that measures the co-occurrence of commentators across several Reddit discussion pages, researchers found that when they filtered out commenters from the r/The_Donald who also commented on the most popular general political discussion pages (e.g., r/politics), the remaining commenter pool was most similar to a number of "hate-based" discussion pages with such as characteristics as "virulently misogynistic" and "open and enthusiastic racism." No hate-based discussion pages resulted from

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December 16, 2016, *available at* https://www.splcenter.org/hatewatch/2016/12/16/update-1094-bias-related-incidents-month-following-election, *accessed* March 27, 2017.

277 Potok, Mark, "The Year in Hate and Extremism," Intelligence Report, February 15, 2017, *available at* https://www.splcenter.org/fighting-hate/intelligence-report/2017/year-hate-and-extremism, *accessed* March 27, 2017.

278 Potok, Mark, "The Year in Hate and Extremism," Intelligence Report, February 15, 2017, *available at* https://www.splcenter.org/fighting-hate/intelligence-report/2017/year-hate-and-extremism, *accessed* March 27, 2017.

performing the same process for discussion pages dedicated to other presidential candidates.[279]

C. Anxiety in K-12 Education

- The SPLC also conducted an online survey with K-12 educators. More than 10,000 individuals responded, with the following results:[280]
    - "Nine out of 10 educators who responded have seen a negative impact on students' mood and behavior following the election; most of them worry about the continuing impact for the remainder of the school year."[281]
    - "Eight in 10 report heightened anxiety on the part of marginalized students,

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279 Martin, Trevor, "Dissecting Trump's Most Rabid Online Following," FiveThirtyEight, March 23, 2017, *available at* https://fivethirtyeight.com/features/dissecting-trumps-most-rabid-online-following/, *accessed* March 28, 2017.

280 Costello, Maureen B., "The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools," Southern Poverty Law Center, Richard Cohen and Adrienne van der Valk, eds., November 28, 2017, *available at* https://www.splcenter.org/20161128/trump-effect-impact-2016-presidential-election-our-nations-schools, *accessed* March 27, 2017.

281 Costello, Maureen B., "The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools," Southern Poverty Law Center, Richard Cohen and Adrienne van der Valk, eds., November 28, 2017, *available at* https://www.splcenter.org/20161128/trump-effect-impact-2016-presidential-election-our-nations-schools, *accessed* March 27, 2017.

including immigrants, Muslims, African Americans and LGBT students."[282]

- "Four in 10 have heard derogatory language directed at students of color, Muslims, immigrants and people based on gender or sexual orientation."[283]

"Over 2,500 educators described specific incidents of bigotry and harassment that can be directly traced to election rhetoric. These incidents include graffiti (including swastikas), assaults on students and teachers, property damage, fights and threats of violence."[284]

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[282] Costello, Maureen B., "The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools," Southern Poverty Law Center, Richard Cohen and Adrienne van der Valk, eds., November 28, 2017, *available at* https://www.splcenter.org/20161128/trump-effect-impact-2016-presidential-election-our-nations-schools, *accessed* March 27, 2017.

[283] Costello, Maureen B., "The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools," Southern Poverty Law Center, Richard Cohen and Adrienne van der Valk, eds., November 28, 2017, *available at* https://www.splcenter.org/20161128/trump-effect-impact-2016-presidential-election-our-nations-schools, *accessed* March 27, 2017.

[284] Costello, Maureen B., "The Trump Effect: The Impact of the 2016 Presidential Election on Our Nation's Schools," Southern Poverty Law Center, Richard Cohen and Adrienne van der Valk, eds., November 28, 2017, *available at* https://www.splcenter.org/20161128/trump-effect-impact-2016-presidential-election-our-nations-schools, *accessed* March 27, 2017.

D. President Trump's Twitter Rhetoric

- An analysis of President Trump's tweets indicates that the number of tweets mentioning "Muslims," "Mexicans," and "immigrants" increased by 219 percent from 2014 to 2015, when he entered the presidential race.
- In addition, as shown in **Table IX.1**, President Trump's tweets have focused more consistently on "Muslims" and "Islam" compared to "Mexican" and "Immigrant".

Table IX.1

Number of Trump's Tweets over Time

	Category		
Year	Muslim/Islam	Mexican	Immigrant
2013	11	1	5
2014	2	12	12
2015	33	23	27
2016	25	2	9

Note: Categories are identified by appearance of the key word.
Source: "Trump Twitter Archive", *available at* http://www.trumptwitterarchive.com, *accessed* March 27, 2017.

- Using a time-series sentiment analysis of President Trump's tweets, it is possible to identify spikes in negativity and positivity.[285]

[285] Textual data processed using the tidytext package in R. See: Silge J and Robinson D (2016). "tidytext: Text Mining

We are able to measure sentiment through the AFINN dataset, which lists English words rated from negative five to positive five by Finn Årup Nielsen from the Technical University of Denmark. (*see* **Figure VIII.2**).[286]

- As shown in **Figure VIII.2**, the average sentiment of Trump's tweets is negative in the month of March and the period of June to August of 2016. This negative sentiment corresponds with two of the three peaks in retweets over that year, with about 2.5 million retweets in March and about 4 million retweets in July. This pattern indicates the particularly pervasive nature of President Trump's negative rhetoric.

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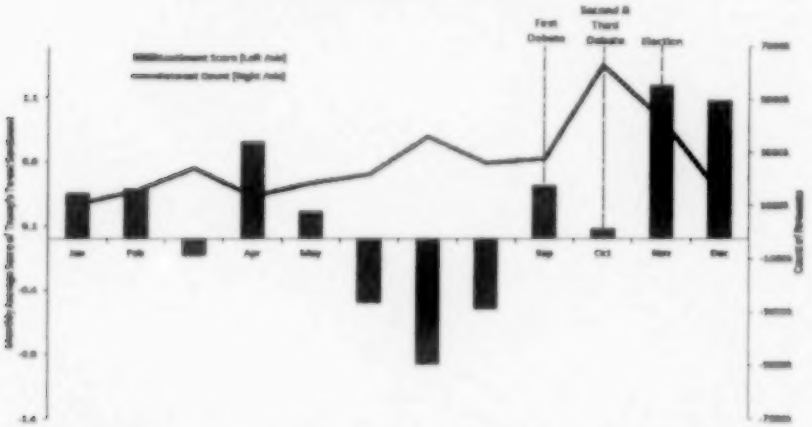
and Analysis Using Tidy Data Principles in R," *available at* http://doi.org/10.21105/joss.00037, *accessed* April 14, 2017.

[286] For example, see Nielsen, Finn Årup, "A new ANEW: Evaluation of a word list for sentiment analysis in microblogs", Proceedings of the ESWC2011 Workshop on 'Making Sense of Microposts': Big things come in small packages 718 in CEUR Workshop Proceedings: 93-98. May, 2011, *available at* http://arxiv.org/abs/1103.2903, *accessed* April 14, 2017.

Figure IX.2
Analysis of Sentiment and Retweet of Trump's Tweets
Jan 01, 2016 – Dec 31, 2016



Note: Sentiment score of each month is calculated as the average of the sentiment score of each tweet posted by President Trump in that month.

Sources:

[1] "Trump Twitter Archive," available at http://www.trumptwitterarchive.com, accessed March 27, 2017.

[2] Nielsen, Finn Årup, "A new ANEW: Evaluation of a word list for sentiment analysis in microblogs", Proceedings of the ESWC2011 Workshop on 'Making Sense of Microposts': Big things come in small packages 718 in CEUR Workshop Proceedings: 93-98. May, 201, *available at* http://arxiv.org/abs/1103.2903, *accessed* April 14, 2017.

X. PROFILE OF IMMIGRANTS FROM THE SIX COUNTRIES AND OTHER SELECTED COUNTRIES

KEY TAKEAWAYS

- **Many of the immigrants from the countries affected by the Executive Order are well educated, have high income, and become U.S. citizens at a higher rate than the other foreign-born naturalized citizens.**
- **Immigrants cluster in certain areas when moving to the U.S.**
- **The share of a state's population that is foreign born is positively correlated with the share of people in the state that believe that immigrants strengthen American society.**
- **Immigrants from countries affected by the Executive Order spend more time on education and less time on housework and other work relative to a population of native-born U.S. population with similar characteristics.**
- **Immigrants from Mexico, Guatemala, and El Salvador spend more time on housework and less time on personal activities such as leisure and sports relative to a population of native-born U.S. population with similar characteristics.**

A. Overview of Immigrants from the Six Countries

- **Individuals Affected:** The Executive Order issued by President Trump on March 6, 2017, suspends entry into the U.S. for 90 days of people without current visas from the following countries: Iran, Libya, Somalia, Sudan, Syria, and Yemen. Additionally, the order bans refugees for 120 days and caps refugees at 50,000 people for 2017.[287]
    - In 2015, green cards were issued to 31,258 individuals from these countries.[288]
    - In 2015, there were nearly 65,000 temporary visits from the six targeted countries, including: recreational or business travelers (49,412); students enrolled on non-immigrant visas (12,205); temporary

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[287] Executive Order, "Executive Order Protecting The Nation From Foreign Terrorist Entry Into The United States," March 6, 2017, The White House Office of the Press Secretary, *available at* https://www.whitehouse.gov/the-press-office/2017/03/06/executive-order-protecting-nation-foreign-terrorist-entry-united-states, *accessed* April 7, 2017.

[288] Singhvi, Anjali, and Alicia Parlapiano, "Trump's New Immigration Ban: Who is Barred and Who is Not," *The New York Times*, March 6, 2017, *available at* https://www.nytimes.com/interactive/2017/03/06/us/politics/trump-travel-ban-groups.html?_r=0, *accessed* March 9, 2017.

workers on non-immigrant work visas and their families (883); Fiancés of U.S. citizens (669).

- Individuals from these countries comprised 3.6 percent of new legal permanent residents from 1999 to 2015.
- The ban does not apply to U.S. citizens, dual nationals with a passport from a country not affected by the ban, diplomats, or government officials.

- **Education:** Many immigrants from these six countries are well educated.[289]
  - Approximately 90 percent of those people from Iran and Libya have at least a high school education.[290]

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[289] Fessenden, Ford, et al., "Immigrants From Banned Nations: Educated, Mostly Citizens and Found in Every State," *The New York Times*, January 30, 2017, *available at* https://www.nytimes.com/interactive/2017/01/30/us/politics/trump-immigration-ban-demographics.html, *accessed* February 17, 2017.

[290] Fessenden, Ford, et al., "Immigrants From Banned Nations: Educated, Mostly Citizens and Found in Every State," *The New York Times*, January 30, 2017, *available at* https://www.nytimes.com/interactive/2017/01/30/us/politics/trump-immigration-ban-demographics.html, *accessed* February 17, 2017.

- Many immigrants from these countries have earned bachelor's degrees and advanced degrees: Iran (54 percent), Libya (59 percent), Sudan (36 percent), and Syria (37 percent). The U.S. national average is approximately 30 percent.

- **Income:** Immigrants from Iran have a median income greater than the U.S. median income ($54,645); the median income of immigrants from Syria and Libya is similar to the U.S. median. Immigrants from Yemen, Sudan, and Somalia earn a median income significantly below the U.S. median.
- **Arrival Dates:** Nearly half of Iranian immigrants arrived in the U.S. before 1990, while about two thirds of Somalis and Sudanese have moved to the U.S. since 2000.
- **Citizenship:** The majority of immigrants from these six countries become U.S. citizens at a rate above the overall percentage of foreign-born naturalized citizens (46.6 percent).

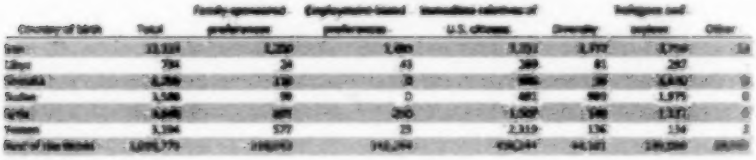
i. Department of Homeland Security Data – Summary Tables

a. Countries Covered Under Current Travel Ban

Table X.1
Persons Obtaining Lawful Permanent Resident Status by Country of Birth
Fiscal Years 2006 to 2015

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.2
Persons Obtaining Lawful Permanent Resident Status by Broad Class of Admission and Country of Birth Fiscal Year 2015



Notes:
[1] D indicates that data are withheld by the DHS to limit disclosure.
[2] A dash represents zero.

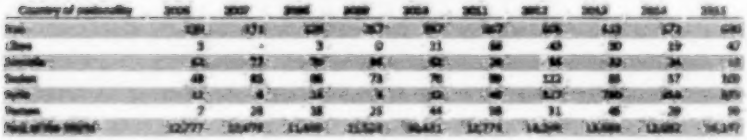
Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.3
Refugee Arrivals by Country of Nationality
Fiscal Years 2006 to 2015

Notes:
[1] Libya did not appear in the DHS dataset.
[2] D indicates that data are withheld by the DHS to limit disclosure.
[3] A dash represents zero.

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.4
Individuals Granted Asylum Affirmatively by Country of Nationality
Fiscal Years 2006 to 2015

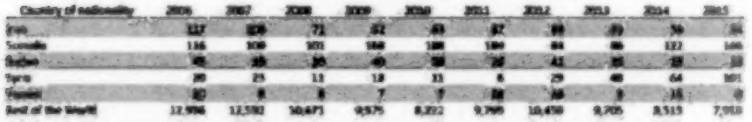


Notes:
[1] D indicates that data are withheld by the DHS to limit disclosure.
[2] A dash represents zero.

MASSTLC

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.5
Individuals Granted Asylum Defensively by Country of Nationality
Fiscal Years 2006 to 2015

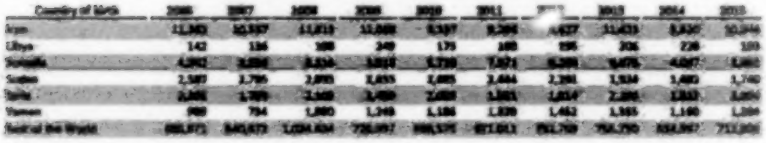


Country of nationality	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Iran	127	109	72	62	43	67	99	89	76	56
Somalia	116	100	101	108	108	100	84	86	122	146
Sudan	45	35	35	40	38	28	41	35	33	33
Syria	20	25	11	18	33	6	29	48	64	101
Yemen	30	8	8	7	7	28	30	8	16	9
Rest of the World	12,996	12,592	10,473	9,575	8,222	9,799	10,450	9,705	8,515	7,910

Note: Libya did not appear in the DHS dataset.

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

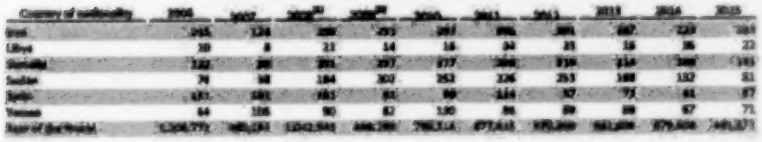
Table X.6
Persons Naturalized by Country of Birth
Fiscal Years 2006 to 2015



Country of birth	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Iran	11,343	10,597	11,013	12,888	9,597	9,208	9,427	11,423	8,837	10,046
Libya	142	136	188	249	179	188	196	206	228	193
Somalia	4,042	3,898	3,834	3,919	3,738	7,871	8,288	9,476	4,047	3,883
Sudan	2,587	2,795	2,895	3,455	3,885	3,464	2,381	1,934	1,485	1,740
Syria	2,501	2,789	2,568	2,459	2,689	1,883	1,854	2,286	1,813	2,054
Yemen	988	794	1,080	1,249	1,186	1,838	1,462	1,365	1,160	1,184
Rest of the World	688,871	840,673	1,024,454	726,997	668,575	671,013	651,769	758,790	634,947	713,906

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.7
Aliens Apprehended by Country of Nationality
Fiscal Years 2006 to 2015

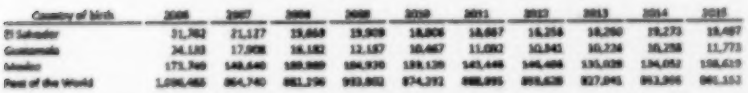


Notes:
[1] Beginning in 2008, data include administrative arrests conducted by ICE ERO.
[2] Beginning in 2009, data include administrative arrests conducted by ICE ERO and administrative arrests conducted under the 287(g) program.

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

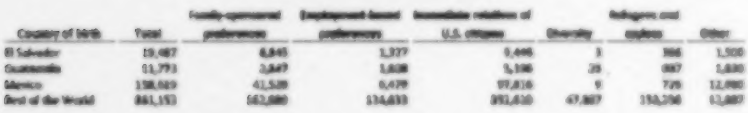
b. Mexico, Guatemala, and El Salvador

Table X.8
Persons Obtaining Lawful Permanent Resident Status by Country of Birth
Fiscal Years 2006 to 2015



Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

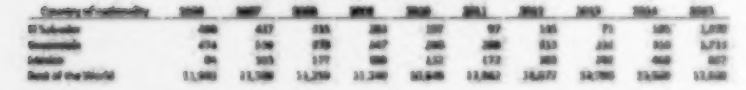
Table X.9
Persons Obtaining Lawful Permanent Resident Status by Broad Class of Admission and Country of Birth
Fiscal Year 2015



Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

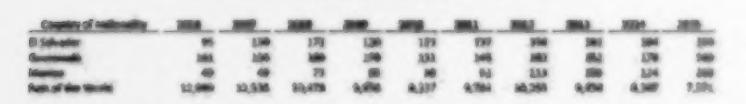
Table X.10
Individuals Granted Asylum Affirmatively by Country of Nationality

Fiscal Years 2006 to 2015



Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.11
Individuals Granted Asylum Defensively by Country of Nationality
Fiscal Years 2006 to 2015



Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available*

at https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.12
Persons Naturalized by Country of Birth
Fiscal Years 2006 to 2015

Country of birth	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
El Salvador	13,480	17,187	30,798	18,827	10,349	13,834	16,685	18,401	15,896	16,900
Guatemala	6,551	8,181	17,687	8,619	5,375	7,288	8,797	9,230	8,549	9,344
Mexico	80,979	132,258	191,815	111,630	67,662	94,788	102,181	96,886	94,889	106,968
Rest of the World	598,629	813,881	761,841	604,526	537,138	578,291	629,771	652,619	534,980	566,627

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Table X.13
Aliens Apprehended by Country of Nationality
Fiscal Years 2006 to 2015

Country of nationality	2006	2007	2008[1]	2009[2]	2010	2011	2012	2013	2014	2015
El Salvador	46,927	38,087	37,150	37,744	20,913	27,462	30,978	51,226	70,121	51,300
Guatemala	23,150	29,908	33,691	38,000	30,050	41,706	57,486	79,268	97,151	66,962
Mexico	1,087,219	854,190	804,017	731,235	632,594	517,472	468,704	424,978	330,177	267,885
Rest of the World	77,712	62,878	98,505	95,245	95,382	91,774	105,088	113,071	158,547	78,321

Notes:

[1] Beginning in 2008, data include administrative arrests conducted by ICE ERO.
[2] Beginning in 2009, data include administrative arrests conducted by ICE ERO and administrative arrests conducted under the 287(g) program.

Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

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B. Where Immigrants Move

i. Summary

- Immigrants cluster in certain geographical areas when moving to the U.S.
- Data from the American Community Survey are used to examine immigrant populations by state. Immigrants from Iran, Syria, Yemen, Sudan, Somalia, and Libya combined make up the largest share of the state immigrant population Minnesota (6.6 percent), followed by Michigan and West Virginia.
- Immigrants from Mexico, El Salvador, and Guatemala combined make up the largest share of the state immigrant population in New Mexico (68.9 percent), followed by Texas and Arizona.

ii. Literature Review

- A review of the literature on immigration patterns finds:
    - New immigrants to the United States are concentrated in the top Standard Metropolitan Statistical Areas (SMSAs). Three quarters of new immigrants are concentrated in the top 25 SMSAs.[291]

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[291] Bartel, Ann P., "Where Do the New U.S. Immigrants Live?" *Journal of Labor Economics* 7(4), pp. 371-391, *available at* http://www.journals.uchicago.edu/doi/abs/10.1086/298213, *accessed* February 25, 2017, p. 389.

- More educated immigrants are more likely to live outside of these top 25 SMSAs, are more likely to move after initial settlement in the United States, and are generally less geographically concentrated.[292]
- Seventy-four percent of the U.S. immigrant population is clustered in six states: California, New York, Texas, Florida, New Jersey, and Illinois.[293]
- Immigrants are more geographically concentrated when English is not the first language spoken at home.[294]

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[292] Bartel, Ann P., "Where Do the New U.S. Immigrants Live?" *Journal of Labor Economics* 7(4), pp. 371-391, *available at* http://www.journals.uchicago.edu/doi/abs/10.1086/298213, *accessed* February 25, 2017, p. 390.

[293] Chiswick, Barry R. and Paul W. Miller, "Where Immigrants Settle in the United States," *The Institute for the Study of Labor*, August 2004, pp. 1-24 , *available at* http://legacy.iza.org/en/webcontent/publications/papers/viewAbstract?dp_id=1231, *accessed* February 25, 2017, p. 3.

[294] Chiswick, Barry R and Paul W. Miller, "Where Immigrants Settle in the United States," *The Institute for the Study of Labor*, August 2004, pp. 1-24 , *available at* http://legacy.iza.org/en/webcontent/publications/papers/viewAbstract?dp_id=1231, *accessed* February 25, 2017, p. 12.

- Ninety-four percent of the foreign born in the U.S. live in urban areas.[295]

iii. Descriptive Tables from the American Community Survey

- Data from the American Community Survey are used to summarize where immigrants move from the six countries included in the executive order, as well as immigrants from Mexico and Central America. The analysis counts all foreign-born residents of the United States as immigrants, even if they have since been naturalized.

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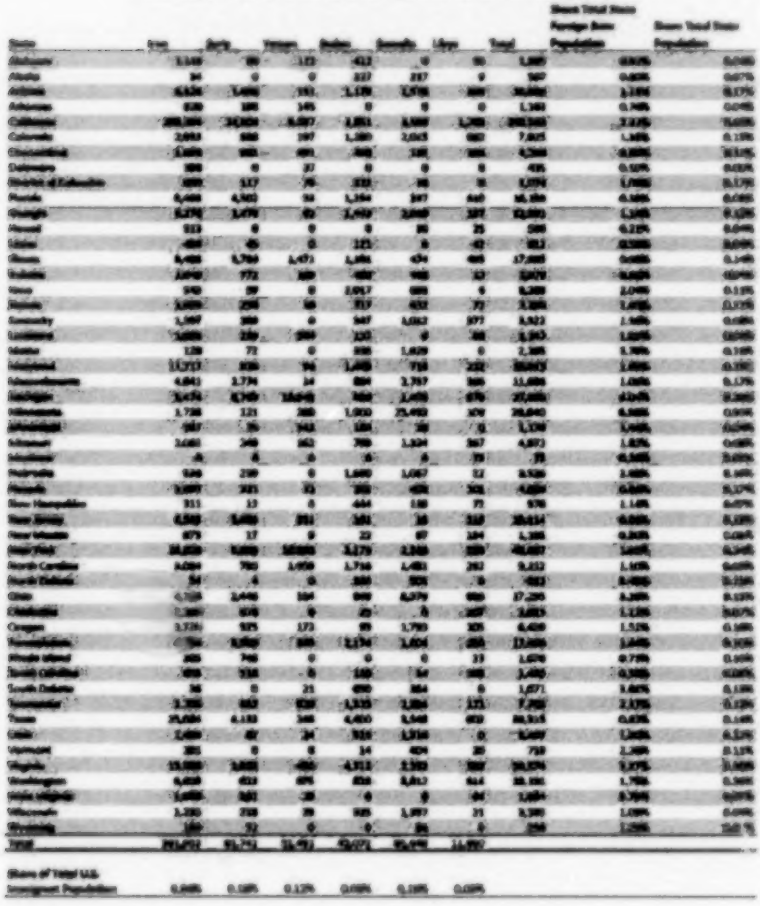
[295] Chiswick, Barry R and Paul W. Miller, "Where Immigrants Settle in the United States," *The Institute for the Study of Labor*, August 2004, pp. 1-24, *available at* http://legacy.iza.org/en/webcontent/publications/papers/viewAbstract?dp_id=1231, *accessed* February 25, 2017, p. 6.

Table X.14
Number of Immigrants by State
Executive Order Six Countries



Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at*

http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Iran make up 0.9 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.15
Top Ten States of Immigrant Residence, Iran

State	Number of Immigrants	Share Total Iranian Immigrant Population	Iranian Immigrants per 100,000 (Total State Population)
California	208,394	54.56%	542
Texas	25,084	6.57%	95
New York	18,829	4.93%	96
Virginia	15,338	4.02%	186
Maryland	11,717	3.07%	198
Florida	9,463	2.48%	48
Illinois	8,488	2.22%	66
Washington	6,629	1.74%	95
New Jersey	6,505	1.70%	73
Georgia	6,276	1.64%	63

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Libya make up 0.03 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.16
Top Ten States of Immigrant Residence, Libya

State	Number of Immigrants	Share Total Libyan Immigrant Population	Libyan Immigrants per 100,000 (Total State Population)
California	1,788	15.35%	5
Colorado	962	8.26%	18
Texas	902	7.74%	3
Ohio	699	6.00%	6
Washington	614	5.27%	9
Florida	610	5.24%	3
New York	508	4.36%	3
Illinois	495	4.25%	4
Kentucky	377	3.24%	9
Michigan	376	3.23%	4

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Somalia make up 0.2 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.17
Top Ten States of Immigrant Residence, Somalia

State	Number of Immigrants	Share Total Somali Immigrant Population	Somali Immigrants per 100,000 (Total State Population)
Minnesota	25,492	29.76%	470
Washington	8,812	10.29%	126
Ohio	8,579	10.02%	74
California	3,584	4.18%	9
Texas	3,548	4.14%	13
Georgia	2,909	3.40%	29
Massachusetts	2,757	3.22%	41
Tennessee	2,384	2.78%	37
New York	2,326	2.72%	12
Virginia	2,252	2.63%	27

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Sudan make up 0.09 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.18
Top Ten States of Immigrant Residence, Sudan

State	Number of Immigrants	Share Total Sudanese Immigrant Population	Sudanese Immigrants per 100,000 (Total State Population)
Texas	4,400	10.46%	17
Virginia	4,311	10.25%	52
California	2,851	6.78%	7
Pennsylvania	2,174	5.17%	17
New York	2,173	5.16%	11
Iowa	2,017	4.79%	65
Minnesota	1,900	4.52%	35
North Carolina	1,716	4.08%	17
Nebraska	1,660	3.95%	89
Maryland	1,443	3.43%	24

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Syria make up 0.2 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.19
Top Ten States of Immigrant Residence, Syria

State	Number of Immigrants	Share Total Syrian Immigrant Population	Syrian Immigrants per 100,000 (Total State Population)
California	24,909	30.47%	65
Michigan	6,769	8.28%	68
New York	5,883	7.20%	30
Illinois	5,786	7.08%	45
New Jersey	5,663	6.93%	64
Florida	4,502	5.51%	23
Texas	4,133	5.06%	16
Pennsylvania	3,599	4.40%	28
Massachusetts	2,774	3.39%	41
Ohio	2,446	2.99%	21

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Yemen make up 0.12 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.20
Top Ten States of Immigrant Residence, Yemen

State	Number of Immigrants	Share Total Yemeni Immigrant Population	Yemeni Immigrants per 100,000 (Total State Population)
New York	16,888	32.80%	86
Michigan	15,343	29.80%	155
California	9,037	17.55%	24
North Carolina	1,959	3.81%	20
Illinois	1,471	2.86%	11
Tennessee	929	1.80%	14
Washington	675	1.31%	10
New Jersey	551	1.07%	6
Louisiana	564	1.10%	12
Virginia	480	0.93%	6

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Mexico and Central America are also major sources of immigrants to the United States.

Table X.21
Number of Immigrants by State
El Salvador, Guatemala, and Mexico

State	El Salvador	Guatemala	Mexico	Total	Share Total State Foreign Born Population	Share Total State Population
Alabama	2,667	10,724	58,034	71,425	36.27%	1.48%
Alaska	592	265	3,231	4,088	6.45%	0.56%
Arizona	6,714	11,569	534,687	554,800	57.20%	8.35%
Arkansas	13,066	3,583	65,005	81,604	52.07%	2.78%
California	428,379	276,189	4,342,242	5,098,214	46.69%	13.14%
Colorado	8,648	7,040	237,797	253,485	43.20%	4.80%
Connecticut	3,764	17,017	28,591	51,283	9.88%	1.43%
Delaware	322	3,914	15,369	19,605	22.48%	2.12%
District of Columbia	14,829	1,987	2,889	20,730	20.37%	3.20%
Florida	43,303	76,591	282,403	402,297	9.80%	2.05%
Georgia	25,270	29,330	278,148	332,738	20.08%	3.34%
Hawaii	321	248	5,543	6,112	2.21%	0.43%
Idaho	648	737	52,379	54,762	50.08%	3.36%
Illinois	8,813	25,231	705,087	739,131	38.24%	5.74%
Indiana	8,049	8,229	111,628	123,906	15.46%	1.88%
Iowa	4,058	4,626	43,489	52,173	32.42%	1.68%
Kansas	4,305	4,594	88,410	97,909	41.77%	3.38%
Kentucky	2,503	5,640	33,287	41,430	23.28%	0.94%
Louisiana	3,022	5,367	31,909	42,298	20.71%	0.91%
Maine	338	233	936	1,507	2.63%	0.11%
Maryland	104,358	31,039	39,198	176,915	19.14%	2.96%
Massachusetts	35,251	29,734	14,415	79,400	7.18%	1.18%
Michigan	2,528	9,387	76,020	85,953	13.80%	0.86%
Minnesota	7,060	7,327	68,429	82,816	18.42%	1.53%
Mississippi	978	2,054	25,474	28,454	24.77%	0.95%
Missouri	4,231	6,880	43,154	54,265	19.91%	0.90%
Montana	175	97	2,634	2,906	10.38%	0.29%
Nebraska	4,690	6,893	48,782	60,365	45.91%	3.23%
Nevada	25,682	10,976	253,212	289,220	49.82%	9.62%
New Hampshire	838	1,005	2,785	4,628	5.40%	0.35%
New Jersey	47,730	44,080	134,159	115,979	10.79%	2.48%
New Mexico	1,777	2,617	153,212	157,606	68.91%	7.56%
New York	115,744	85,325	250,474	431,441	5.32%	2.16%
North Carolina	30,566	22,826	256,874	310,266	36.93%	3.15%
North Dakota	34	89	1,886	2,009	7.58%	0.26%
Ohio	4,983	8,174	48,193	61,350	11.64%	0.53%
Oklahoma	3,170	7,983	130,676	121,832	48.98%	3.14%
Oregon	3,892	5,334	153,317	162,543	38.32%	4.13%
Pennsylvania	7,018	11,784	53,091	71,811	8.51%	0.56%
Rhode Island	2,583	15,982	3,095	21,660	14.62%	2.06%
South Carolina	3,269	7,298	72,174	82,594	30.91%	1.73%
South Dakota	779	1,909	3,272	5,900	20.11%	0.71%
Tennessee	8,756	13,317	83,689	115,111	32.38%	1.77%
Texas	189,600	67,937	2,596,173	2,853,710	60.97%	10.75%
Utah	7,820	4,698	104,958	117,214	44.45%	4.04%
Vermont	0	352	1,251	1,603	5.04%	0.26%
Virginia	96,911	25,515	60,825	183,281	16.94%	2.32%
Washington	10,640	10,743	239,628	261,011	25.18%	3.74%
West Virginia	171	365	2,909	3,445	3.49%	0.19%
Wisconsin	1,216	2,823	94,185	98,204	32.46%	1.71%
Wyoming	141	451	8,901	9,493	41.03%	1.64%
Total	1,307,319	917,718	11,911,219			
Share of Total U.S. Immigrant Population	2.94%	2.06%	26.75%			

Note: Tables for Central America include immigrant populations from El Salvador and Guatemala. These two countries make up the largest proportion of Central American immigrants coming to the U.S. (Migration Policy Institute, "Central American Immigrants in the United States," September 25, 2015, ***available at*** http://www.migrationpolicy.org/article/central-american-immigrants-united-states, *accessed* March 4, 2017.)

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), ***available at*** http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Mexico make up 26.8 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.22
Top Ten States of Immigrant Residence, Mexico

State	Number of Immigrants	Share Total Mexican Immigrant Population	Mexican immigrants per 100,000 (Total State Population)
California	4,342,242	36.46%	11302
Texas	2,596,173	21.80%	9785
Illinois	705,087	5.92%	5477
Arizona	534,487	4.49%	8047
Florida	282,403	2.37%	1437
Georgia	279,146	2.34%	2790
North Carolina	256,874	2.16%	2609
New York	250,474	2.10%	1273
Washington	239,628	2.01%	3430
Colorado	237,797	2.00%	4505

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from El Salvador make up 2.9 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.23
Top Ten States of Immigrant Residence, El Salvador

State	Number of Immigrants	Share Total El Salvadoran Immigrant Population	El Salvadoran Immigrants per 100,000 (Total State Population)
California	429,879	32.88%	1119
Texas	189,600	14.50%	714
New York	115,744	8.85%	588
Maryland	104,358	7.98%	1760
Virginia	96,931	7.41%	1174
New Jersey	47,730	3.65%	536
Florida	43,303	3.31%	220
Massachusetts	35,251	2.70%	526
North Carolina	30,566	2.34%	310
Georgia	25,270	1.93%	253

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

- Immigrants from Guatemala make up 2.1 percent of the total U.S. immigrant population, and reside predominately in the following ten states:

Table X.24
Top Ten States of Immigrant Residence, Guatemala

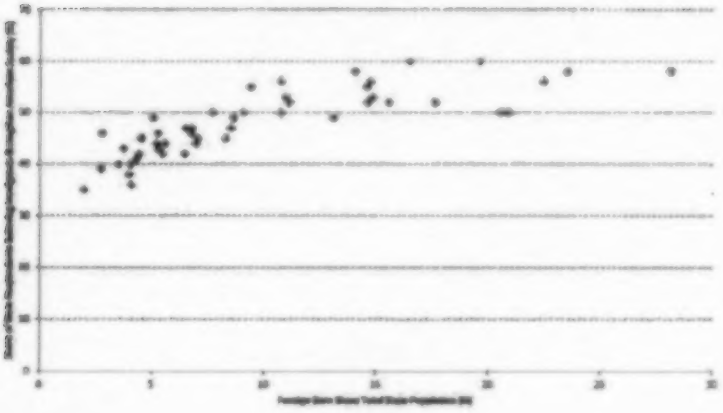
State	Number of Immigrants	Share Total Guatemalan Immigrant Population	Guatemalan Immigrants per 100,000 (Total State Population)
California	276,193	30.10%	719
Florida	76,591	8.35%	390
Texas	67,937	7.40%	256
New York	65,223	7.11%	332
New Jersey	44,090	4.80%	495
Maryland	33,059	3.60%	557
Massachusetts	29,734	3.24%	443
Georgia	29,320	3.19%	293
Virginia	25,515	2.78%	309
Illinois	25,231	2.75%	196

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

iv. Public Opinion on Immigration

- A relationship can be seen between where immigrants move, and public opinion on immigration in those states. The foreign born share of a total state population is positively correlated with the share of state respondents that believe that immigrants strengthen American society.

Figure X.1
Foreign Born Share of Total State Population vs. Public Opinion on Immigration



Sources:
[1] U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.
[2] PRRI, 2015 Atlas of American Values, *available at* http://ava.publicreligion.org/, *accessed* March 15, 2017.

C. How Immigrants Spend Their Time

i. Summary

- Immigrants from Iran, Syria, Yemen, Sudan, Somalia, and Libya spend more time on education and less time on housework and other work relative to a population of native-born U.S. population

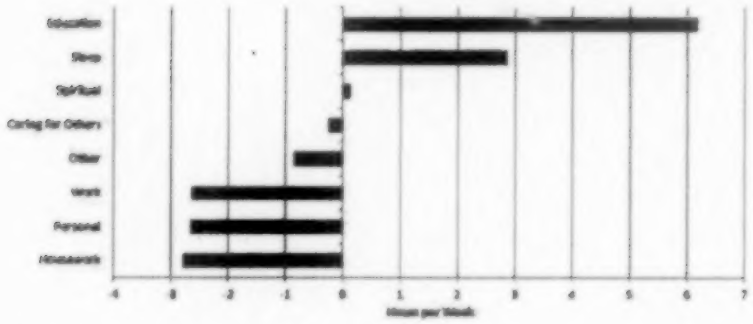
with similar characteristics. Among working adults age 25 and older, immigrants from these countries work more and continue to invest more time in education compared to the native-born U.S. population.

- Immigrants from Mexico, Guatemala, and El Salvador spend more time on housework and sleep and less time on personal activities such as leisure and sports relative to the native-born U.S. population.

ii. ***Descriptive Statistics from the 2003-2015 Current Population Survey and American Time Use Survey***

- Compared to a U.S. population of similar age, sex, and states of residence, immigrants from the six countries spend approximately four hours more per week on education. They spend approximately 0.13 hours (or 7 minutes) more per week on average on spiritual activities.

Figure X.2
Hours per Week Spent on Activity
Comparison of U.S. Immigrants from One of the Six Predominantly Muslim Countries Identified in the Executive Order to U.S.-Born Population



Notes:

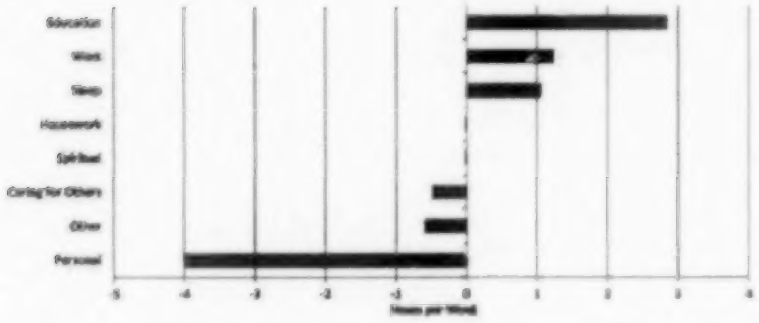
[1] U.S.-born observations are weighted such that the age, sex, and state of residence composition of the U.S.-born population is equal to the immigrant population.

[2] Results are based on 283 U.S. immigrants born in Iran, Libya, Somalia, Sudan, Syria, or Yemen; and 1,271 U.S.-born respondents.

Source: U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, 2003-2015, *available at* https://www.bls.gov/tus/data.htm, *accessed* March 15, 2017.

- Among working age adults age 25 and older, immigrants from the six countries invest more time in education, work, and sleep compared to U.S.-born population of similar age, sex, and state residence. They spend approximately 4.0 hours less per week on personal activities such as leisure and sports.

Figure X.3
Hours per Week Spent on Activity
Comparison of U.S. Immigrants from One of the Six Predominantly Muslim Countries Identified in the Executive Order to U.S.-Born Population
Working Population At Least 25 Years Old



Notes:

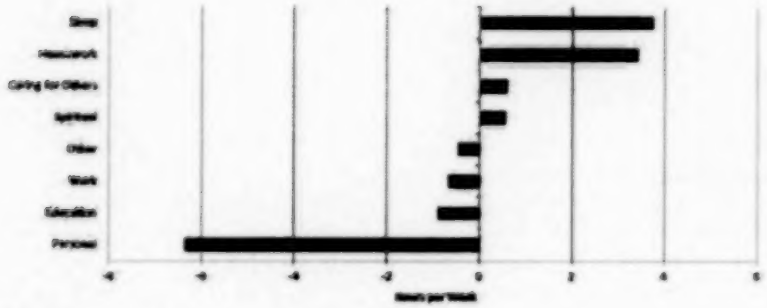
[1] U.S.-born observations are weighted such that the age, sex, and state of residence composition of the U.S.-born population is equal to the immigrant population.

[2] Results are based on 168 U.S. immigrants born in Iran, Libya, Somalia, Sudan, Syria, or Yemen; and 637 U.S.-born respondents.

Source: U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, 2003-2015, *available at* https://www.bls.gov/tus/data.htm, *accessed* March 15, 2017.

- Compared to a U.S. population of similar age, sex, and states of residence, immigrants from Mexico, Guatemala, and El Salvador spend approximately 3.4 hours more per week on housework. They sleep more than three hours more than the U.S. population, but they spend 6.6 fewer hours on personal activities.

Figure X.4
Hours per Week Spent on Activity
Comparison of U.S. Immigrants from Mexico, Guatemala, or El Salvador to U.S.-Born Population



Notes:

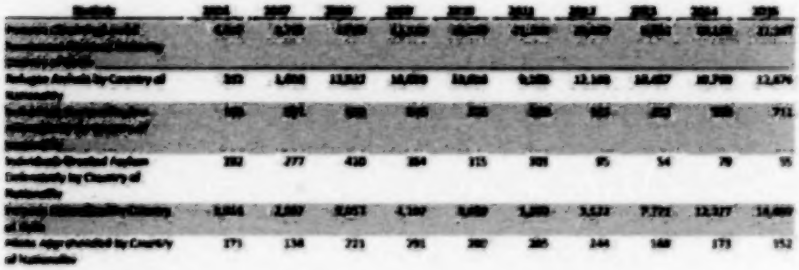
[1] U.S.-born observations are weighted such that the age, sex, and state of residence composition of the U.S.-born population is equal to the immigrant population.

[2] Results are based on 7,326 U.S. immigrants born in Mexico, Guatemala, or El Salvador; and 19,243 U.S.-born respondents.

Source: U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, 2003-2015, *available at* https://www.bls.gov/tus/data.htm, *accessed* March 15, 2017.

D. Appendix: Statistics Pertaining to Iraq

Appendix Table X.1
Select Immigration Statistics for Iraq: 2006 to 2015



Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Appendix Table X.2
Iraqi Born Persons: Obtaining Lawful Permanent Resident Status by Broad Class of Admission: Fiscal Year 2015

Total	Family-sponsored preferences	Employment-based preferences	Immediate relatives of U.S. citizens	Diversity	Refugees and asylees	Other
21,107	209	68	866	37	18,973	954

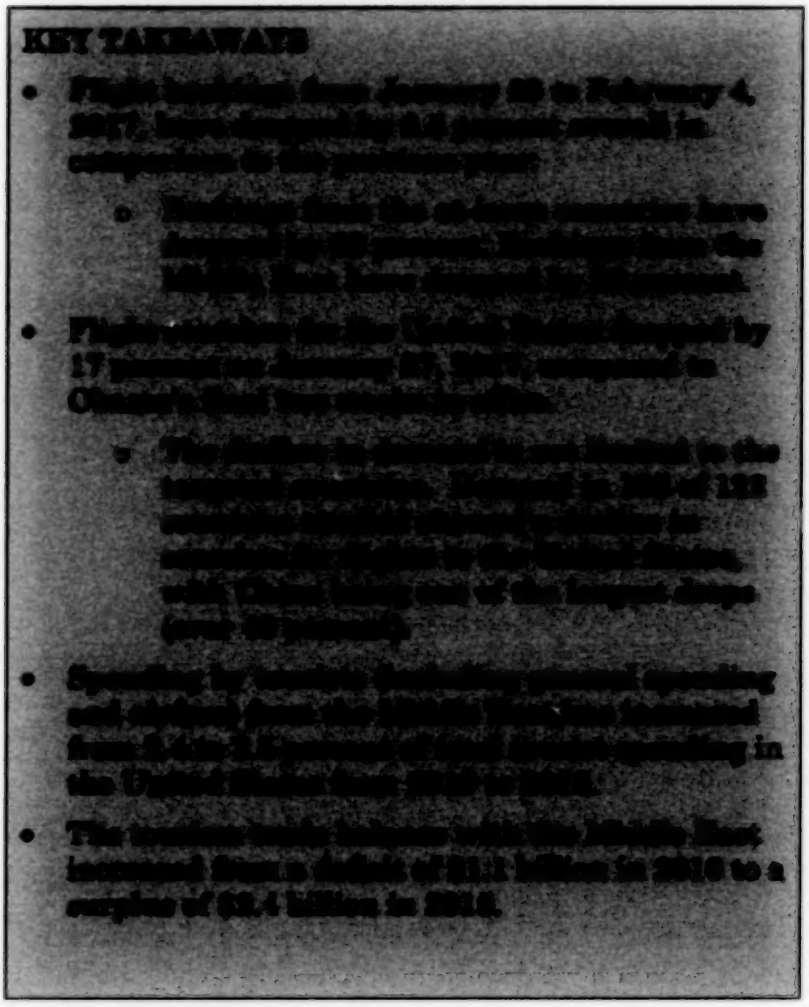
Source: U.S. Department of Homeland Security, "Yearbook of Immigration Statistics, 2015," *available at* https://www.dhs.gov/immigration-statistics/yearbook/2015, *accessed* February 21, 2017.

Appendix Table X.3
Top Ten States of Immigrant Residence, Iraq

State	Number of Immigrants	Share Total Iraqi Immigrant Population	Iraqi Immigrants per 100,000 (Total State Population)
Michigan	51,234	26.40%	517
California	43,259	22.29%	113
Illinois	12,595	6.49%	98
Texas	12,359	6.37%	47
Arizona	8,803	4.54%	133
Virginia	7,182	3.70%	87
New York	4,466	2.30%	23
Tennessee	4,374	2.25%	67
Washington	4,246	2.19%	61
Florida	3,891	2.01%	20

Source: U.S. Census Bureau, American Community Survey, 2010-2015 Pooled Data, S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, Integrated Public Use Microdata Series: Version 6.0, University of Minnesota (distributor), *available at* http://doi.org/10.18128/D010.V6.0, *accessed* April 4, 2017.

XI. THE IMPACT OF THE TRAVEL BAN ON THE U.S. TRAVEL INDUSTRY



A. Changes in Travel Demand Before/After Travel Ban

i. Flight Search Data

- **About Hopper:**
  - Hopper is a mobile application that uses predictive analysis of flight price data to provide users with deals on flights.[296]
  - Hopper published two reports analyzing flight searches following the travel ban – one on February 7, 2017, and an updated analysis on February 23, 2017. They compared average daily flight search queries for flights to the US originating in 122 countries during the period starting three weeks prior to President Trump's inauguration (January 20, 2017) to February 1, 2017.
  - Hopper collected the data – the results of consumer airfare searches – for the study from several unnamed "Global Distribution System partners."[297]

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[296] "About," Hopper, ***available at*** http://www.hopper.com/corp/about.html, *accessed* April 6, 2017.

[297] Surry, Patrick, "Initial Effects of the Travel Ban on International Travel to the US," Hopper Research, February 21, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us, *accessed* April 14, 2017; Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research,

- **Initial Findings:**
  - "Flight search demand from international origins to the US has dropped 17% overall since Trump's inauguration and implementation of the travel ban, compared to the final weeks of the Obama presidency."[298]
  - "Flight search demand to the US has fallen in 94 of 122 origin countries."[299]
  - "Weekly search demand for flights to the US is down 33% from countries included in the travel ban."[300]

February 23, 2017, *available at* http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, *accessed* April 3, 2017.

[298] Surry, Patrick, "Initial Effects of the Travel Ban on International Travel to the US," Hopper Research, February 7, 2017, *available at* http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us, *accessed* February 21, 2017.

[299] Surry, Patrick, "Initial Effects of the Travel Ban on International Travel to the US," Hopper Research, February 7, 2017, *available at* http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us, *accessed* April 21, 2017.

[300] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, *available at* http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, *accessed* April 3, 2017.

Table XI.1
Percentage Change in Flight Search Demand from Pre-Inauguration to Announcement and Implementation of Travel Ban

	Before Inauguration: 12/29 – 1/18	After Travel Ban Announced: 1/26 – 2/1	Percentage Change
Banned[301]	371,590	247,616	-33%
Skipped[302]	1,542,859	1,244,192	-19%
Other	61,552,322	50,898,344	-17%

Source: Surry, Patrick, "Initial Effects of the Travel Ban on International Travel to the US," Hopper Research, February 7, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us, ***accessed*** February 21, 2017.

[301] Banned countries are Libya, Syria, Iraq, Iran, Somalia, and Sudan. Hopper has no data for Yemen.

[302] "Skipped" countries are selected Muslim-majority countries not affected by the travel ban: Turkey, Egypt, Saudi Arabia, Indonesia, Qatar, UAE, and Azerbaijan.

- **Updated Findings:**
  - "Flight search demand was weakest on the day the travel ban was announced [on January 27]; down 17% compared to Obama's final two weeks in office." [303]
  - Demand recovered slightly after the Executive Order was successfully challenged in multiple US District courts, but as of February 23 was still well below expected levels.[304]
  - The decline in demand is not limited to the targeted countries. In fact, according to Hopper, 103 of 122 countries studied showed a decline in searches for flights to the United States, with China being one of the largest drops (over 40%).[305]

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[303] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, ***accessed*** April 3, 2017.

[304] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, ***accessed*** April 3, 2017.

[305] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-

- The average decline in demand was about 22%.[306]
- Hopper also provides analysis comparing the change from expected daily demand in 2016 and 2017 respectively. That analysis shows that daily flight demand has remained below expectations for most of the days since the travel ban was announced. Notably, the change from expected daily demand was typically positive during the same period in 2016. [307]

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travel-ban-on-international-travel-to-the-us-update, *accessed* April 3, 2017.

[306] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, *accessed* April 3, 2017.

[307] Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, ***available at*** http://www.hopper.com/research/initial-effects-of-the-travel-ban-on-international-travel-to-the-us-update, *accessed* April 3, 2017.

Table XI.2
Top 6 Countries with Largest Negative Percentage Change in Flight Search Demand

	12/29 – 1/18	1/26 – 2/21	Percentage Change
China	20,194,053	11,981,180	-40.7%
Bahrain	99,747	59,218	-40.6%
Sudan	13,312	7,962	-40.2%
Iraq	128,424	76,847	-40.2%
Uganda	30,313	18,766	-38.1%
Saudi Arabia	331,335	206,082	-37.8%

Source: Surry, Patrick, "UPDATE - Effects of the Travel Ban on International Travel to the US," Hopper Research, February 23, 2017, *available at* https://docs.google.com/spreadsheets/d/15EgtC4szaY32KUkpVRNOokkjntqmkE65ASaLylEX8PE/pubhtml, *accessed* April 3, 2017.

- **Kayak Data:**
  - Kayak is a technology company that searches travel websites, such as online travel agencies and airline, hotel, and

car rental websites, to consolidate information for travelers.[308]

- Analyses of daily searches on Kayak for flights to the U.S. between equivalent periods in 2017 and 2016 show a decline in demand of 8.5% from the seven at-issue countries in the period immediately following the first executive order.
- Daily searches from Muslim-majority not at-issue countries declined by 15.3% in the same period.

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[308] "About Kayak," Kayak, *available at* https://www.kayak.com/about, accessed May 17, 2017.

Table XI.3
Percentage Change in Daily Average Searches for Flights to the U.S. from 2016 to 2017

	1/1 - 1/19	1/27 - 4/6
Seven At-Issue Countries	22.6%	-8.5%
Other Muslim-Majority Countries	5.3%	-15.3%
Europe	-3.6%	-2.1%
Russia	-5.4%	-14.6%

Notes:
[1] The table shows the percentage change in the daily average searches for flights to the U.S. between equivalent periods in 2017 and 2016.
[2] President Trump got sworn in on January 20, 2017.
[3] President Trump signed the first travel ban executive order on January 27, 2017.
[4] The Seven At-Issue Countries are Libya, Syria, Iraq, Iran, Somalia, Sudan, and Yemen.
[5] The Other Muslim-Majority Countries are Afghanistan, Algeria, Bahrain, Bangladesh, Egypt, Indonesia, Jordan, Kuwait, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, Turkey, and the United Arab Emirates.

Source: Kayak Travel Data from January 1 - April 6, 2016; January 1 - April 6, 2017.

ii. Flight Booking Data

- **About ForwardKeys:**
  - ForwardKeys is a market research firm focused on the global travel industry.[309]
  - ForwardKeys analyzes millions of travel booking transactions each day and publishes both historical data and predictions of future travel patterns.[310]
  - In February 2017, ForwardKeys published a study on the impact of the travel ban on air travel to the US based on data collected from over 200,000 travel agencies globally.[311]
  - The study was covered by Reuters, who cited it as evidence that travel ban negatively impacted global demand for travel to the US.[312]

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309 "ForwardKeys – Who We Are," ForwardKeys, *available at* https://forwardkeys.com/revenue-management/article/forwarddata.html, *accessed* April 6, 2017.

310 "ForwardKeys – Who We Are," ForwardKeys, *available at* https://forwardkeys.com/revenue-management/article/forwarddata.html, *accessed* April 6, 2017.

311 "Trump Travel Ban Impact on Air Travels to the U.S.A.," ForwardKeys, February 8, 2017, *available at* https://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA.html, *accessed* April 3, 2017.

312 "Trump Travel Restrictions Hit Demand for Visits to U.S.: Study," Reuters, February 7, 2017, *available at*

- **Initial Reports (as of February 4, 2017):**
  - Between January 28, 2017, and February 4, 2017 (the week following the initial travel ban) air travel bookings from Iraq, Syria, Iran, Libya, Somalia, Sudan, and Yemen decreased 80% compared to the same period in 2016.[313]
  - The effect is not limited to the countries listed in the ban: net international air travel bookings were down 6.5% compared to the same period in 2016 while cancellations were up 12%.[314]
  - As of February 4, airfare already booked for the following three months was 14.7% lower among the seven countries affected by the ban compared to the prior year.[315]

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http://www.reuters.com/article/us-usa-trump-immigration-travel-idUSKBN15N007, *accessed* April 6, 2017.

313 "Trump Travel Ban Impact on Air Travels to the U.S.A.," ForwardKeys, February 8, 2017, *available at* https://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA.html, *accessed* April 3, 2017.

314 "Trump Travel Ban Impact on Air Travels to the U.S.A.," ForwardKeys, February 8, 2017, *available at* https://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA.html, *accessed* April 3, 2017.

315 "Trump Travel Ban Impact on Air Travels to the U.S.A.," ForwardKeys, February 8, 2017, *available at* https://forwardkeys.com/revenue-

- Year-over-year booking trends from every region of the world were lower on February 4 than they had been on January 27.[316]

- **Additional Reports as of February 25, 2017:**
  - Following the suspension of the ban on February 4, 2017, flight bookings increased modestly, but decreased again following the announcement on February 17 that a new ban would be enacted. In the period from February 5 to February 16, total international flight bookings to the US were 2.2% ***higher*** than they had been during the same period in 2016. However, following the announcement of the new ban, flight bookings from February 17 to February 25 were 4.0% lower compared to the same period in 2016.[317]

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management/article/trump-travel-ban-impact-on-air-travels-to-the-USA.html, *accessed* April 3, 2017.

316 "Trump Travel Ban Impact on Air Travels to the U.S.A.," ForwardKeys, February 8, 2017, ***available at*** https://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA.html, *accessed* April 3, 2017.

317 "Middle East Meltdown: US Travel to Islamic countries collapses in wake of Trump Ban," ForwardKeys, March 6, 2017, ***available at*** http://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA-update.html, *accessed* April 3, 2017.

Table XI.4
Percentage Change in Flight Bookings to the United States by Origin Region from 2016 to 2017

	1/28 – 2/4	2/5 – 2/16	2/17 – 2/25
Seven At-Issue Countries	-80%	-1.1%	-4.0%
Middle East & Africa	-23%	-9.7%	-5.7%
Asia Pacific	-14%	3.9%	2.6%
Europe	-7.5%	-0.2%	-3.8%
The Americas	2.3%	6.4%	-0.9%
Overall	-6.5%	2.2%	-4.0%

Source: "Middle East Meltdown: US Travel to Islamic countries collapses in wake of Trump Ban," ForwardKeys, March 6, 2017, *available at* https://forwardkeys.com/revenue-management/article/trump-travel-ban-impact-on-air-travels-to-the-USA-update.html, *accessed* April 3, 2017.

iii. Additional Sources

- Emirates Airlines reported that booking rates to the United States fell 35% following the travel ban. Emirates noticed an "instantaneous" effect and had not fully recovered as of March 9, 2016. However,

the chief executive of Qatar Airways stated that his airline had not experienced a decline in demand for flights to the US.[318]

- The Global Business Travel Association (GBTA) polled its members and found that 30% of companies expected to reduce overall business travel.[319]
- According to the GBTA, for every 1% of annual decrease in business travel spending, the United States loses roughly 71,000 jobs, $5 billion in GDP, $3 billion in wages, and $1.2 billion in tax revenue.[320]
- According to the GBTA, in the week following the travel ban, general uncertainty among travelers caused a loss

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[318] "Emirates Airlines Concerned About Latest U.S. Travel Order," CNBC, March 9, 2017, ***available at*** http://www.cnbc.com/2017/03/09/emirates-airlines-concerned-about-latest-us-travel-order.html, ***accessed*** March 12, 2017.

[319] "Press Release: President Trump's Travel Ban Creates Likely Short- and Long-term Travel Disruption," GBTA, February 2, 2017, ***available at*** http://www.gbta.org/PressReleases/Pages/rls_020217.aspx?Source=http%3A%2F%2Fwww%2Egbta%2Eorg%2Flists%2Fnews%2FAllitems_all%2Easpx, ***accessed*** April 6, 2017.

[320] McCormick, Mike, "The Ruling on the Travel Ban: A Lose-Lose Scenario for Business Travel and the Economy," GBTA, February 9, 2017, ***available at*** http://blog.gbta.org/2017/02/09/the-ruling-on-the-travel-ban-a-lose-lose-scenario-for-business-travel-and-the-economy/, ***accessed*** March 2, 2017.

of approximately $185 million in travel bookings.[321]

- Cheapflights.com saw international searches for flights to the United States drop following the ban. [322]
    - From January 27 to January 29, search volume decreased 38% compared to the previous weekend.
    - From February 10 to February 14, search volume decreased 16% compared to the average volume in January.
- Swedish search engine Flygresor.se noted a 47% decline in searches for flights to the United States following the enactment of the travel ban, compared to the same period in 2016.[323]

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321 McCormick, Mike, "The Ruling on the Travel Ban: A Lose-Lose Scenario for Business Travel and the Economy," GBTA, February 9, 2017, ***available at*** http://blog.gbta.org/2017/02/09/the-ruling-on-the-travel-ban-a-lose-lose-scenario-for-business-travel-and-the-economy/, ***accessed*** March 2, 2017.

322 Vora, Shivani, "After Travel Ban, Interest in Trips to U.S. Declines," New York Times, February 20, 2017, ***available at*** https://www.nytimes.com/2017/02/20/travel/after-travel-ban-declining-interest-trips-to-united-states.html, ***accessed*** March 12, 2017.

323 Vora, Shivani, "After Travel Ban, Interest in Trips to U.S. Declines," New York Times, February 20, 2017, ***available at*** https://www.nytimes.com/2017/02/20/travel/after-travel-ban-declining-interest-trips-to-united-states.html, ***accessed*** March 12, 2017.

- A study by Tourism Economics (a research firm associated with Oxford Economics) found that Los Angeles County alone could potentially lose 800,000 international visitors in the next three years due to the travel ban, which would amount to approximately $736 million in tourism-related spending. [324]

B. Statistics Regarding Travel and Tourism by Immigrants

i. Air Travel

- In 2015, 1,343,347 people visited the United States from the Middle East, representing a 9.6 percent increase from 2014. [325]

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[324] Vora, Shivani, "After Travel Ban, Interest in Trips to U.S. Declines," New York Times, February 20, 2017, *available at* https://www.nytimes.com/2017/02/20/travel/after-travel-ban-declining-interest-trips-to-united-states.html, *accessed* March 12, 2017.

[325] "I-94 Program: 2015 Monthly Arrivals Data," Table C – Section 2, U.S. Department of Commerce, ITA, National Travel and Tourism Office, June 2016, *available at* http://travel.trade.gov/view/m-2015-I-001/index.asp, *accessed* April 14, 2017.

Table XI.5
Middle East Arrivals to the United States over Time

	2010	2011	2012	2013	2014	2015
Number of Arrivals	735,549	810,688	925,398	1,058,122	1,225,500	1,343,347
As % of Overseas Arrivals	2.8%	2.9%	3.1%	3.3%	3.5%	3.5%
% Change from Prior Year	10.5%	10.2%	14.1%	14.3%	15.8%	9.6%

Source: Monthly Arrivals to the United States, U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/research/monthly/arrivals/index.asp

ii. Tourism Revenue

- **Tourism from the Middle East represented $8.67 billion of "exports" in 2015. The United States had a positive $2.36 billion net balance of trade with the Middle East for travel and tourism.** [326]

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326 "U.S. Travel and Tourism Balance of Trade: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/middle-east.pdf, ***accessed*** March 9, 2017.

- The 1.3 million tourists who visited the US from the Middle East in 2015 spent $8.1 billion during their visits (excluding airfare), amounting to roughly $6,200 per person.[327]
    - This is about $3,000 more, per capita, than tourists from Europe, who spent approximately $3,200 per person (excluding airfare) in the United States in 2015.[328]
- While the greatest number of tourists come from North America (Canada, Mexico), these tourists spend much less per visit than people who come from farther.[329]

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[327] "2015 Market Profile: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/2015_Middle_East_Market_Profile.pdf, ***accessed*** April 6, 2017.

[328] "2015 Market Profile: Europe," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/2015_Europe_Market_Profile.pdf, ***accessed*** April 6, 2017.

[329] Martin, Hugo, "Foreign Tourists' Spending in U.S. Rises to New Record," LA Times, February 22, 2013, ***available at*** http://articles.latimes.com/2013/feb/22/business/la-fi-foreign-tourists-20130222, ***accessed*** April 6, 2017.

- European tourists, while still a large percentage of total arrivals, are decreasing in number.[330]
- Spending by tourists (including general spending and airfare) from the Middle East has increased from 2.4% to 3.5% of total tourist spending in the United States from 2010 to 2015.[331]
    - Excluding airfare, the percentage increased 2.7% to 4.0%. Middle Eastern visitors' spending on airfare has decreased from 1.5% to 1.4% of total foreign spending on airfare to the United States.[332]

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330 Martin, Hugo, "Foreign Tourists' Spending in U.S. Rises to New Record," LA Times, February 22, 2013, *available at* http://articles.latimes.com/2013/feb/22/business/la-fi-foreign-tourists-20130222, *accessed* April 6, 2017.

331 "U.S. Travel and Tourism Balance of Trade: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, *available at* http://travel.trade.gov/outreachpages/download_data_table/middle-east.pdf, *accessed* March 9, 2017; "U.S. Travel and Tourism Balance of Trade: All Countries (Total)," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, *available at* http://travel.trade.gov/outreachpages/download_data_table/2006-2015-new.pdf, *accessed* April 21, 2017.

332 "U.S. Travel and Tourism Balance of Trade: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, *available at* http://travel.trade.gov/outreachpages/download_data_table/

Table XI.6
Middle East Travel and Tourism Receipts as a Percentage of All International Travel and Tourism Receipts

	2010	2011	2012	2013	2014	2015
Middle East Receipts: Overall	2.4%	2.7%	2.6%	3.2%	3.5%	3.5%
Middle East Receipts: Excluding Airfare	2.7%	3.0%	2.9%	3.6%	4.0%	4.0%
Middle East Receipts: Airfare	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%

Sources:

[1] "U.S. Travel and Tourism Balance of Trade: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/middle-east.pdf, ***accessed*** March 9, 2017.

[2] "U.S. Travel and Tourism Balance of Trade: All Countries (Total)," U.S. Department of Commerce,

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middle-east.pdf, ***accessed*** March 9, 2017; "U.S. Travel and Tourism Balance of Trade: All Countries (Total)," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/2006-2015-new.pdf, ***accessed*** April 21, 2017.

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- New York City in particular will be affected by a declining volume in tourists from the Middle East. In 2015, 41% of all tourists originating in the Middle East visit New York City.[333] Meanwhile, foreign tourists in the city spend about four times as much, on average, as domestic tourists.[334]

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[333] "2015 Market Profile: Middle East," U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, ***available at*** http://travel.trade.gov/outreachpages/download_data_table/2015_Middle_East_Market_Profile.pdf, ***accessed*** April 6, 2017.

[334] McGeehan, Patrick, "New York Expects Fewer Foreign Tourists, Saying Trump is to Blame," *New York Times*, ***available at*** https://www.nytimes.com/2017/02/28/nyregion/new-york-foreign-tourists-trump-policies.html?_r=0, ***accessed*** April 3, 2017.

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